State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

NOTICE OF DETERMINATION

TO: State Clearinghouse
Office of Planning and Research
1400 Tenth Street, Room 222
P.O. Box 3044
Sacramento, California 95812-3044

FROM: Department of Parks and Recreation
1416 9th Street
P.O. Box 942896
Sacramento, California 94296-0001

SUBJECT: Filing of Notice of Determination, in compliance with §21108 of the Public Resources Code.

Project Title: Coastal Watershed Road Removal Project
State Clearinghouse Number: 2003022040
Contact Person: Shaelyn Raab Strattan **Phone:** (916) 445-8791
Project Location: Sinkyone Wilderness State Park, Humboldt County, California

Project Description:
DPR proposes to make the following improvements to the Sinkyone Wilderness State Park (SWSP) Coastal Watersheds, as summarized below:

- Full road recontouring of approximately 40 miles of abandoned, unstable service and skid roads within the coastal sub-watersheds. The work would include excavation of embankment fill from roads and stabilization of excavated materials on cutbench to fully recontour to natural (pre-disturbance) topography. Project would stabilize approximately 130,000 cubic yards of road fill that is potentially deliverable to streams if left untreated.
- Removal of fill material from 203 stream crossings associated with the service and skid roads indicated above. The majority of the crossings have no flow during the construction season and are typically small fill crossings. Stream crossing removal includes excavation of road and landing fill from road/stream channel crossings and stabilization of excavated materials. Stream channel bed, banks, and adjacent slopes would be restored to their pre-crossing configuration and longitudinal stream gradient reestablished through the crossing site. Project would remove approximately 55,489 cubic yards of potentially deliverable sediment from these stream crossing sites.

The California Department of Parks and Recreation has approved this project on March 11, 2003, and has made the following determinations:

1. ☒ The project will not have a significant effect on the environment.
   ☐ The project will have a significant effect on the environment.
2. ☒ A Negative Declaration was prepared and adopted, pursuant to the provisions of the California Environmental Quality Act (CEQA).
   ☐ A Final Environmental Impact Report has been completed in compliance with CEQA, and has been presented to the decision-making body of this Department for its independent review and consideration of the information, prior to approval of the project.
3. Mitigation measures ☒were ☐were not made conditions of project approval.
4. A Statement of Overriding Considerations ☐was ☒was not adopted for this project.
5. Findings ☒were ☐were not made on environmental effects of the project.

The Negative Declaration and record of project approval may be examined at the California Department of Parks and Recreation, Northern Service Center, located at One Capitol Mall - Suite 410, Sacramento, California 95814.

Bill B. Berry Jr. 3/11/03

Bill B. Berry, Jr.
Deputy Director, Park Operations

RECEIVED
MAR 11 2003
STATE CLEARING HOUSE

Date Received for Filing

DRAFT

INITIAL STUDY
MITIGATED NEGATIVE DECLARATION

SINKYONE WILDERNESS STATE PARK
COASTAL WATERSHEDS ROAD REMOVAL PROJECT

January 2003

State of California
DEPARTMENT OF PARKS AND RECREATION

MITIGATED NEGATIVE DECLARATION

PROJECT: Sinkyone Wilderness State Park (SWSP)
Coastal Watersheds Road Removal Project

LEAD AGENCY: California Department of Parks and Recreation

AVAILABILITY OF DOCUMENTS:
This Initial Study/Mitigated Negative Declaration is available for review at:

California Department of Parks & Recreation
Northern Service Center
One Capitol Mall - Suite 410
Sacramento, California 95814

California Department of Parks & Recreation
North Coast Redwoods District
3431 Fort Avenue
Eureka, California 95503

Humboldt County Public Library
1313 Third Street
Eureka, CA 95501

PROJECT DESCRIPTION:
DPR proposes to make the improvements described herein to the Sinkyone Wilderness State Park (SWSP) Coastal Watersheds. The following is a summary of the planned improvements:

1) **Full Road Recontouring**
Full road recontouring of approximately 44 miles of abandoned, unstable inner-gorge, mid-slope and ridgetop service and skid roads within the Coastal Watersheds. The work would include excavation of embankment fill from roads and stabilization of excavated materials on cutbench to fully recontour natural (pre-disturbance) topography.

2) **Stream Crossing Removal**
Removal of fill material from 187 stream crossings associated with the service and skid roads indicated above. The majority of the crossings would have no flow during the proposed construction season and are typically small fill crossings. Stream crossing removal would include excavation of road and landing fill from road/stream channel crossings and stabilization of excavated materials. Stream channel bed, banks, and adjacent slopes would be restored to their pre-crossing configuration. Longitudinal stream gradient would be reestablished through the crossing site.

A copy of the Initial Study is incorporated into this Mitigated Negative Declaration. Questions or comments regarding this Initial Study/Mitigated Negative Declaration may be addressed to:

Shaelyn Raab Strattan
California Department of Parks & Recreation
Northern Service Center
One Capitol Mall - Suite 500
Sacramento, CA 95814

Pursuant to Section 21082.1 of the California Environmental Quality Act, the California Department of Parks and Recreation (DPR) has independently reviewed and analyzed the Initial Study and Negative Declaration for the proposed project and finds that these documents reflect the independent judgment of DPR.

[Original signature on file] 1/30/03

Shaelyn Raab Strattan Date
Statewide Environmental Coordinator

DPR, as lead agency, also confirms that the project mitigation measures detailed in these documents are feasible and would be implemented as stated in the Negative Declaration.

John A. Kolb Date
Superintendent, North Coast Redwoods District

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CHAPTER 1
INTRODUCTION

1.1 INTRODUCTION AND REGULATORY GUIDANCE

The Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared by the California Department of Parks and Recreation (DPR) to evaluate the potential environmental effects of the proposed Coastal Watersheds Road Removal at Sinkyone Wilderness State Park (SWSP), Mendocino and Humboldt counties, California. This document has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code §21000 *et seq*., and the State CEQA Guidelines, California Code of Regulations (CCR) §15000 *et seq*.

An Initial Study is conducted by a lead agency to determine if a project may have a significant effect on the environment [CEQA Guidelines §15063(a)]. If there is substantial evidence that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) must be prepared, in accordance with CEQA Guidelines §15064(a). However, if the lead agency determines that revisions in the project plans or proposals made by or agreed to by the applicant mitigate the potentially significant effects to a less-than-significant level, a Mitigated Negative Declaration (MND) may be prepared instead of an EIR [CEQA Guidelines §15070(b)]. The lead agency prepares a written statement describing the reasons a proposed project would not have a significant effect on the environment and, therefore, why an EIR need not be prepared. This IS/MND conforms to the content requirements under CEQA Guidelines §15071.

1.2 LEAD AGENCY

The lead agency is the public agency with primary approval authority over the proposed project. In accordance with CEQA Guidelines §15051(b)(1), "the lead agency would normally be an agency with general governmental powers, such as a city or county, rather than an agency with a single or limited purpose." The lead agency for the proposed project is DPR. The contact person for the lead agency is:

Ethan Casaday
Roads, Trails, and Resources
North Coast Redwoods District
3431 Fort Avenue
Eureka, California 95503
Phone: (707) 445-5344
Or
P.O. Box 2006
Eureka, California 95502

1.3 PURPOSE AND DOCUMENT ORGANIZATION

The purpose of this document is to evaluate the potential environmental effects of the proposed Coastal Watersheds Road Removal project in SWSP. Mitigation measures have also been incorporated into the project to eliminate any potentially significant impacts or reduce them to a less-than-significant level.

This document is organized as follows:

Chapter 1 - Introduction.
This chapter provides an introduction to the project and describes the purpose and organization of this document.

Chapter 2 - Project Description.
This chapter describes the reasons for the project, scope of the project, and project objectives.

Chapter 3 - Environmental Setting, Impacts, and Mitigation Measures.
This chapter identifies the significance of potential environmental impacts, explains the environmental setting for each environmental issue, and evaluates the potential impacts identified in the CEQA Environmental Checklist. Mitigation measures are incorporated, where appropriate, to reduce potentially significant impacts to a less than significant level.

Chapter 4 – Mandatory Findings of Significance
This chapter identifies and summarizes the overall significance of any potential impacts to the natural and cultural resources, cumulative impacts and impacts to humans, as identified in the Initial Study.

Chapter 5 - Summary of Mitigation Measures.
This chapter summarizes the mitigation measures incorporated into the project as a result of the Initial Study.

Chapter 6 - References.
This chapter identifies the references and sources used in the preparation of this IS/MND, and includes a list of report preparers.

1.4 SUMMARY OF FINDINGS

Chapter 3 of this document contains the Environmental Checklist that identifies the potential environmental impacts (by environmental issue) and a brief discussion of each impact resulting from implementation of the proposed project. Based on the Environmental Checklist and the supporting environmental analysis provided in this document, the proposed Coastal Watersheds Road Removal Project at SWSP would result in less than significant impacts for the following issues: aesthetics, agricultural resources, air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, transportation/traffic, and utilities and service systems, and cumulative impacts.

In accordance with §15064(f) of the CEQA Guidelines, a MND shall be prepared if the proposed project would not have a significant effect on the environment after the inclusion of mitigation measures in the project. Based on the available project information and the environmental analysis presented in this document, there is no substantial evidence that, after the incorporation of mitigation measures, the proposed project would have a significant effect on the environment. It is proposed that a Mitigated Negative Declaration be adopted in accordance with the CEQA Guidelines.

CHAPTER 2
PROJECT DESCRIPTION

2.1 INTRODUCTION

This IS/MND evaluates the environmental effects of the proposed SWSP Coastal Watersheds Road Removal Project. This project would perform full road recontouring of approximately 44 miles of abandoned, unstable inner-gorge service and skid roads within the Coastal Watersheds. The work would include excavation of embankment fill from roads and stabilization of excavated materials on cutbench to fully recontour natural (pre-disturbance) topography. It would also remove fill material from 187 stream crossings associated with those service and skid roads. Stream crossing removal would include excavation of road and landing fill from road/stream channel crossings and stabilization of excavated materials. Stream channel bed, banks, and adjacent slopes would be restored to their pre-crossing configuration and longitudinal stream gradient would be reestablished throughout the crossing site. The project is intended to diminish the impacts of abandoned roads to the natural resources of the SWSP and associated coastal watersheds.

2.2 PROJECT LOCATION

Sinkyone Wilderness State Park (SWSP) is located in the coastal mountains of northwestern Mendocino County and southwestern Humboldt County and is part of the North Coast Redwoods District of California State Parks. The northern extent of the project area lies about four miles south of the Humboldt/Mendocino County line and approximately 85 miles south of Eureka. The southern boundary is approximately seven miles due west of Leggett and 210 miles north of San Francisco. The park is long and narrow in shape and stretches for 14 miles along the Pacific coast, encompassing the western slope of the ocean-facing ridge of the coast range. The land north of the park, known as the King Range National Conservation Area is managed by the Bureau of Land Management. Highway 1 runs inland, just south of the present park boundaries.

The work proposed as part of this project would take place in Low Gap, Jackass (Wolf), High Tip, and Usal Creeks, which drain directly to the Pacific Ocean, and Anderson Creek, which drains to the Eel River (T 5 S, R 19 W, Sections 2, 3, 4, 9, 10, 11, 14, 15, 22, 23, 24, 25, 26, 36; and T 6 S, R 18 W, Sections 6, 7 Humboldt Meridian). Work would also occur on numerous small, unnamed streams within the park that also drain to the Pacific Ocean. Access to the project site from Eureka is via Highway 101; exit at the Redway off-ramp, travel 2 miles to Redway and turn west on the Briceland road. Travel west and turn left on the Whitethorn road, travel through Whitethorn to Four Corners and southwest to the park entrance. Or exit at the Highway 1 intersection in Leggett; travel west on Highway 1 to the Usal road, then north on Usal road to the park entrance. The roads proposed for removal are located to the south and are accessed using maintained state/county roads that may be closed to vehicles during wet weather conditions. The access roads to the park are closed seasonally and may not be derivable due to winter rains.

2.3 BACKGROUND AND NEED FOR THE PROJECT

Road failures and unnatural landslides caused by the diversion of streams and concentration of surface runoff has resulted in the degradation of aquatic habitat, adversely impacting State and Federally listed

salmonids and sensitive amphibians. The purpose of this project is to diminish the impacts of these roads to the natural resources of SWSP.

The road removal sites are completely within an area that was clear-cut and tractor logged prior to DPR ownership. In some locations, the clear-cut blocks are adjacent to old growth forest. The sites contain a dense network of skid roads that were abandoned after logging operations ceased in the early 1980's. The sites have numerous unstable stream crossings and inboard road construction that interrupt and concentrate runoff onto slopes prone to landslides. Many gullies and landslides exist that are related to the road network proposed for removal. Numerous active landslides intersect the roads and many are located along the slope between the roads and the stream channels.

The project would improve habitat conditions for fish, wildlife, and plant populations. Listed salmonids would benefit from a reduction in sediment delivery to spawning and rearing habitat. This project would improve habitat for Coho and Chinook salmon, Steelhead, and Coastal Cutthroat trout by restoring the natural surface hydrology and eliminating stream diversions and runoff concentrations that cause gullies and landslides. Amphibians would benefit from an increase in suitable habitat, as well as a reduction in sediment delivery to potential habitat. DPR's goal of restoring natural vegetation patterns and improving conditions for natural slope processes would be aided by re-establishing natural drainage patterns, recontouring of old roadways, and reducing unnatural landslides.

After the completion of this project, the entire network of abandoned logging roads would be rehabilitated, and the Park would then be eligible for reclassification as State Wilderness.

2.4 PROJECT OBJECTIVES

The primary objective of the proposed project is to protect park resources through the use of road recontouring to:

- Eliminate interception and diversion of runoff on the road surface.
- Prevent erosion of road embankment fill.
- Prevent direct sediment delivery to the drainage network from failed embankment fill.
- Prevent runoff diversions that cause severe gullying on roads and slopes.
- Prevent mass movements caused by diverted flow directed onto interfluve slopes.
- Re-establish the natural landform and original hydrology.
- Eliminate direct linkage between streams and roads, thereby decreasing sediment transport distance and stream velocities.
- Eliminate road surface areas that collect water, causing interbasin transfer of runoff to adjacent sub-watersheds that increases streamflow, bank erosion, channel migration, and inner-gorge mass wasting.

2.5 PROJECT DESCRIPTION

DPR proposes to make the improvements described herein to the Coastal Watersheds within SWSP. The following is a summary of the planned improvements: Sinkyone Wilderness State Park contains a dense network of skid roads that were abandoned after logging operations ceased in the early 1980's prior to Park ownership. Road failures and unnatural landslides caused by the diversion of streams and concentration of surface runoff has resulted in the degradation of aquatic habitat resulting in adverse impacts to threatened anadromous fish species and sensitive amphibians. In some areas, bank erosion caused by excessive sediment loads has resulted in the toppling of riparian trees. The purpose of this project is to diminish the impacts of these roads to the natural resources of the State Park system. The following work is proposed as part of this project:

1. Implement full road recontouring on approximately 44 miles of road.
2. Removal of fill material from 187 stream crossings associated with the service and skid roads.
3. Stabilize 130,000 cubic yards of road fill that is potentially deliverable to streams if left untreated.

Full Road Recontouring

Full road recontouring of approximately 44 miles of abandoned, unstable service and skid roads would be conducted within the coastal sub-watersheds. The work would include excavation of embankment fill from roads and stabilization of excavated materials on cutbench to fully recontour to natural (pre-disturbance) topography. Project would stabilize approximately 130,000 cubic yards of road fill that is potentially deliverable to streams if left untreated. Partial recontouring may be used where the long-term stability of fully restored fills may be questionable and failure of said fill would have negative off site impacts.

Stream Crossing Removal

Removal of fill material from 187 stream crossings associated with the service and skid roads indicated above. The average length of stream channel affected by crossing removal is approximately 100 feet in length. The majority of the crossings has no flow during the construction season and are typically small fill crossings. Stream crossing removal includes excavation of road and landing fill from road/stream channel crossings and stabilization of excavated materials. Stream channel bed, banks, and adjacent slopes would be restored to their pre-crossing configuration, except where post-logging incision, stream diversion or bank instability requires unique design, and longitudinal stream gradient reestablished through the crossing site. Project would remove approximately 55,489 cubic yards of potentially deliverable sediment from these stream-crossing sites.

See Section 2.6 (Project Construction) below for details on the actual construction process.

2.6 PROJECT CONSTRUCTION

The construction window for this project would extend from July 10 to October 31st of 2003, 2004, and 2005, except in those areas that are encumbered by marbled murrelet restrictions, where operations would not commence until September 16 of any work year. All areas affected by the project would be closed to the public during construction. Visitation to these sites is very low and the actual sites to be treated are generally difficult to access and receive little visitation due to thick brush, poison oak, gullies, and landslides. Only one site is currently used as a recreation trail, and it would be permanently closed. As a result, inconvenience to the public from implementation of this project would be minimal. The

majority of work would occur between the hours of 6 a.m. and 6 p.m., except adjacent to campgrounds, where work hours would be restricted to the hours between 8 a.m. and 5 p.m.

Up to four crews of three people, using heavy construction equipment would perform the proposed work. Individual service vehicles would also be on-site during construction.

Heavy equipment work would utilize a bulldozer (ranging in class from D-6 to D-8), to push fill up steep slopes and shape/finish slopes, and an excavator (ranging in class from 20,000 to 70,000 pounds) to excavate and shape/finish slopes while sitting on steep slopes. A geologist or qualified geology intern would oversee all heavy equipment work for appropriate design. Due to the seasonal restrictions for heavy equipment operations, work would be spread out over several years.

Construction Techniques for Full Road Recontouring:

- The excavator and dozer would work together to prepare the site by first removing all trees and brush growing on the cutbank, roadbed, and embankment fillslope. Mulch would be stockpiled on the top of the cutbank or below the embankment fill. Mulch may be stockpiled in piles, but would be left accessible to the excavator when earthmoving tasks are complete. Trees growing in undisturbed soil that were partially buried by road embankment fill may be left standing; however, embankment fill would be excavated away from the base. Care would be taken to protect roots. An excavator-mounted vegetation masticator may be used to remove trees and brush. Tree boles would be left at least 24" high for later extraction with the excavator or dozer. If a masticator is used, a dozer may be employed to accumulate and pile ground mulch for use on finished surfaces.
- Following clearing operations, a dozer equipped with rippers would decompact the inboard ditch and cutbench portion of the road, to a minimum depth of 12 inches. The cutbank would be stripped of all organic accumulations, using the dozer or the excavator or a combination of both, except where spring flow or seepage may support aquatic species. Small amounts of organic material, such as small twigs, leaves, and decomposed humus, may be incorporated into the fill material and used to recontour the cutbench.
- If stable areas exist along the road cutbench, the dozer would begin pushing embankment fill into the cutbank in maximum 6-inch lifts. The dozer would continue to push material against the cutbank, compacting it in lifts until the material becomes too steep on which to operate, or no more fill is available locally or site-specific design calls for lesser finished grades. As the dozer cuts embankment fill, it would leave a berm on the outside edge to prevent material from being sidecast downslope.
- The excavator would follow the dozer and make a pass to remove the berm and what remains of the embankment fill beyond. The excavator could complete the slope match at the top of the cutbank. Where a complete match is not possible due to a deficit of fill material, the excavator would pull down the top corner of the cutbank, up to 6 feet where practical, and blend with the fill below.
- Where recontoured slopes permit, the final surface would be smoothed by back-dragging with the dozer blade, or by sliding the back of the excavator bucket back and forth across the recontoured slope. Trees and brush removed prior to excavation would be raked across the surface with the excavator to remove the equipment tracks, then spread evenly over the surface as mulch.
- Cutbanks exposing seeps or springs would not be recontoured. Instead, the embankment fill adjacent to the wet area would be exported to a nearby dry section of the road. An outsloped

cutbench would extend along all wet road sections. All vegetation within 25-feet of the seep or spring would be retained with the exception of any vegetation on the roadbed.

- If a long section of road is not suitable for full recontouring, the excavator would remove the embankment fill and load it into a dump truck to be end-hauled to a stable location. The excavator and dozer would recover the entire embankment fill and outslope the cutbench of the road. On roads with steep linear grades, broad swales would be constructed along the road at appropriate locations to convey flow into natural drainage features below the road.
- Road sections immediately adjacent to stream crossings would not be fully recontoured. Instead, the fill would be tapered toward the crossing and the exposed cutbank laid-back to a more stable slope. This would reduce the slope on each side of the crossing, lessening the chance for direct sediment delivery if a post-treatment slope failure occurs.

Construction Techniques for Stream Crossing Removal:

- The excavator would prepare the site by first removing all trees and brush growing on the cutbank, roadbed, and embankment fillslope of the adjacent road sections. Trees and brush growing on the crossing fill upstream sediment wedge would also be removed. Mulch would be stockpiled on the top of the adjacent road cutbanks or elsewhere in the crossing excavation area. Mulch may be stockpiled in piles, but would be left accessible to the excavator when earthmoving tasks are complete. Trees growing in undisturbed soil that were partially buried by fill may be left standing; however, fill would be excavated away from around the base. Care would be taken to protect roots. An excavator-mounted vegetation masticator may be used to remove trees and brush. Tree boles would be left at least 24" high for later extraction with the excavator or dozer. If a masticator is used, a dozer may be employed to accumulate and pile ground mulch for use on finished surfaces.
- If the stream has running water, it would be diverted away from excavation areas to reduce turbidity. Where channel widths are wide enough, a berm would be constructed to divert water away from the work area. Where channels are narrow, a small diversion dam would be built upstream and stream flow piped around the worksite and discharged into the stream below the worksite. Instream fabric filters would be installed downstream of crossing sites, where diversion is not possible.
- If the crossing has already partially failed and access is required to the opposite side, a small road bench would be reconstructed along the upstream end of the crossing, to allow access to both sides of the crossing. A minimal amount of fill would be used and streamflow (if present) piped around the site or a culvert is installed to convey streamflow under the temporary road. Brush mats would be used in dry crossings to convey flow during unseasonable runoff through the temporary crossings.
- Following clearing operations, a dozer equipped with rippers would decompact the inboard ditch and cutbench portion of the adjacent road sections, to a minimum depth of 12 inches. The cutbank would be stripped of all organic accumulations, using the dozer or the excavator or a combination of both. Small organic material would be evenly distributed and incorporated into the fill material and used to recontour the cutbench.
- If stable areas exist along the adjacent road cutbench, the dozer would begin pushing the crossing fill into the cutbank of the adjacent road sections, in maximum 6-inch lifts. The dozer would continue to push material out of the crossing, compacting it in lifts until the material becomes too steep on which to operate; the dozer reaches the local Ordinary High Water elevation; or no more

fill is available in the crossing. As the dozer cuts crossing fill, it would leave a berm on the downstream edge to prevent material from being sidecast downslope toward the stream.

- As the dozer begins the crossing excavation, the excavator would position itself at the downstream edge of crossing and begin removing fill and placing it where the bulldozer can push it to the storage area. In crossing excavations where stream flow is present, the excavator would work from the downstream extent of excavation to the upstream extent, to prevent pooling and uncontrolled release of water and sediment. If the adjoining road is not suitable for material storage, the excavator would remove the crossing fill and load it directly into a dump truck; and material would be end-hauled to a stable location.
- The dozer and excavator would continue to work in tandem until all crossing fill on the adjacent slopes has been removed. The excavation would be designed to match the slopes and banks upstream and downstream from the crossing. In cases where the failed crossing includes a large inner-gorge gully or has incised below pre-disturbance stream grade, it may be necessary to lay the banks back by digging into non-fill material.
- The excavator would make final adjustments to the excavated stream crossing. The final surface would be smoothed by back dragging with the dozer or the back of the excavator bucket. Trees and brush removed prior to excavation would then be spread over the surface as mulch. Slash/mulch would be distributed 2-4 inches in depth with 90% coverage on all slopes leading directly into a watercourse. Logs and large rocks would not be placed in the excavated channel without proper design because they can cause lateral migration resulting in bank erosion. Logs, where available, would be placed on the channel margins or span the removed crossing.
- Cutbanks exposing seeps or springs would not be recontoured. Instead, the crossing fill would be exported to a dry section of the road farther from the crossing. An outsloped cutbench would be left adjacent to the stream crossing, if wet areas are present.
- Road sections immediately adjacent to stream crossings would not be fully recontoured. Instead, the fill would be tapered toward the crossing and the exposed cutbank laid-back to a more stable slope. This would reduce the slope on each side of the crossing, lessening the chance for direct sediment delivery if a post-treatment slope failure occurs.

2.7 VISITATION TO SINKYONE WILDERNESS STATE PARK

Statistics from DPR's records indicate that annual attendance to SWSP is approximately 50,000 visitors per year. The park contains primitive and backcountry campsites only. The campsites are largely unused between November and May, the months when rain is likely. Campgrounds often are full during the summer weekends between Memorial Day and Labor Day holidays. The majority of visitors use the facilities at Usal Campground and the Needle Rock Visitors Center.

Sites proposed for treatment are abandoned, overgrown roads deep within the backcountry, that are rarely used for hiking and are unusable by vehicles. Park staff conducting watershed inventory and watershed rehabilitation projects rarely encounter visitors in these areas. The majority of roads planned for removal are covered with thick brush and have failed due to past erosion problems; use of these roads by visitors is extremely low. The Low Gap trail proposed for removal receives little use because it has steep grades, major erosion problems, and low aesthetic value.

2.8 CONSISTENCY WITH LOCAL PLANS AND POLICIES

The proposed Coastal Watersheds Road Removal Project at SWSP is consistent with local plans and policies. The implementation of this project is consistent with other projects conducted or planned by the County of Mendocino; adjacent landowners; the Bureau of Land Management, who manages the nearby King Range National Conservation Area; the USDA Forest Service, and the National Park Service. The Local Coastal Plan(LCP), developed by Mendocino County, pursuant to the California Coastal Act, limits developments in SWSP. However, the intent of the LCP was not to regulate watershed rehabilitation, but to control development of park facilities, such as campgrounds and day use areas.

2.9 DISCRETIONARY APPROVALS

DPR has approval authority for the proposed Coastal Watersheds Road Removal project at SWSP. The project would require discretionary approval from the California Department of Fish and Game (DFG) in the form of a Stream Alteration Agreement (SAA). The SAA would be applied for after the Notice of Determination (NOD) has been filed for this project. The park is within the Coastal Zone, and a Coastal Development Permit would also be required for the project. No federal permits are required; however, the U.S. Fish and Wildlife Service (USFWS) has reviewed the project site with regards to the northern spotted owl and marbled murrelet. Prior to operations, a letter of Technical Assistance would be obtained from the USFWS, identifying potential marbled murrelet habitat and the temporal operating restrictions for both species. A letter of disclaimer has been obtained from the U.S. Army Corps of Engineers (USACE) stating that, based on the project description, the proposed project is not within their jurisdiction and no permit is necessary.

2.10 RELATED PROJECTS

This project was originally conceived in the late 1980's and a Negative Declaration was prepared in 1990. An NOD was prepared and filed in 1991, which covered rehabilitation throughout the park. However, only small portions of the work were completed, due to lack of sufficient funding. Now, additional work sites have been identified and have been added to the original list of roads proposed for removal(Sinkyone State Park Road Removal Project Plan, California State Parks, 2002). These changes in scope, along with some changes in implementation measures and endangered species protection, have made the preparation of this new Mitigated Negative Declaration necessary.

The work proposed under this project would include the removal of roads throughout SWSP. Following completion of this project, all of the abandoned roads within the Park that were identified as erosion or runoff diversion threats will have been removed. Some roads and stream crossings within the park were treated as part of the Upper Mattole River Watershed Restoration Implementation Project conducted by Sanctuary Forest in 2002. Park Administrative roads would be upgraded as part of separate projects in the future. It is anticipated that similar road removal work would occur in the adjoining, upstream Sinkyone Inter-Tribal Wilderness Park, managed by the Sinkyone Inter-Tribal Council. Also, the King Range National Conservation area to the north has implemented similar road removal projects and additional similar projects are anticipated in the foreseeable future. However, impacts from these ongoing and future projects, along with other environmental issues addressed in this evaluation, would

not overlap in such a way as to result in adverse cumulative impacts that are greater than the sum of the parts.

The cumulative effect of treating numerous sites in SWSP reduces chronic high levels of sediment delivered to streams from failing roads and road related structures, and reduces peak flows in sensitive coastal streams (Johnson, 1995). Treatment of proposed sites would substantially aid watershed recovery and reduce cumulative negative effects induced by logging that persist in our disturbed parklands. The short-term erosion and sedimentation that may occur at the numerous stream crossings throughout the project will deliver less total material than would be deposited over time, if the project was not implemented (Madej, 2000).

CHAPTER 3
ENVIRONMENTAL CHECKLIST

PROJECT INFORMATION

1. Project Title: COASTAL WATERSHEDS ROAD REMOVAL PROJECT

2. Lead Agency Name & Address: California Department of Parks and Recreation
1416 Ninth Street
P.O. Box 942896
Sacramento, CA 94296-0001

3. Contact Person & Phone Number: Ethan Casaday (707)445-5344 or (message)445-6547 or (fax)441-5737

4. Project Location: SINKYONE WILDERNESS STATE PARK

5. Project Sponsor Name & Address: California Department of Parks & Recreation
North Coast Redwoods District
3431 Fort Ave.
Eureka, California 95503

6. General Plan Designation: State Park

7. Zoning: Recreation

8. Description of Project:

DPR proposes to make the following improvements to the Sinkyone Wilderness State Park (SWSP) Coastal Watersheds, as summarized below:

- Full road recontouring of approximately 44 miles of abandoned, unstable service and skid roads within the coastal sub-watersheds. The work would include excavation of embankment fill from roads and stabilization of excavated materials on cutbench to fully recontour to natural (pre-disturbance) topography. Project would stabilize approximately 130,000 cubic yards of road fill that is potentially deliverable to streams if left untreated.
- Removal of fill material from 187 stream crossings associated with the service and skid roads indicated above. The majority of the crossings have no flow during the construction season and are typically small fill crossings. Stream crossing removal includes excavation of road and landing fill from road/stream channel crossings and stabilization of excavated materials. Stream channel bed, banks, and adjacent slopes would be restored to their pre-crossing configuration and longitudinal stream gradient reestablished through the crossing site. Project would remove approximately 55,489 cubic yards of potentially deliverable sediment from these stream crossing sites.

9. Surrounding Land Uses & Setting: Refer to Chapter 3 of this document
(Section IX, Land Use Planning)

10. Approval Required from Other Public Agencies: California Department of Fish and Game, Local Coastal Permit (Mendocino County)

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

If implemented as written, this project could result in a "Potentially Significant Impact" involving at least one area of the environmental factors checked below, as indicated in the Initial Study on the following pages.

☐ Aesthetics	☐ Agricultural Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology/Soils
☐ Hazards & Hazardous Materials	☐ Hydrology/Water Quality	☐ Land Use/Planning
☐ Mineral Resources	☐ Noise	☐ Population/Housing
☐ Public Services	☐ Recreation	☐ Transportation/Traffic
☐ Utilities/Service Systems	☐ Mandatory Findings of Significance	☒ None

DETERMINATION

On the basis of this initial evaluation:

I find that the proposed project **COULD NOT** have a significant effect on the environment and a **NEGATIVE DECLARATION** will be prepared. ☐

I find that, although the original scope of the proposed project **COULD** have had a significant effect on the environment, there **WILL NOT** be a significant effect because revisions/mitigations to the project have been made by or agreed to by the applicant. A **MITIGATED NEGATIVE DECLARATION** will be prepared. ☒

I find that the proposed project **MAY** have a significant effect on the environment and an **ENVIRONMENTAL IMPACT REPORT** or its functional equivalent will be prepared. ☐

I find that the proposed project **MAY** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment. However, at least one impact has been adequately analyzed in an earlier document, pursuant to applicable legal standards, and has been addressed by mitigation measures based on the earlier analysis, as described in the report's attachments. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the impacts not sufficiently addressed in previous documents. ☐

I find that, although the proposed project could have had a significant effect on the environment, all potentially significant effects have been adequately analyzed in an earlier EIR or Negative Declaration, pursuant to applicable standards, and have been avoided or mitigated, pursuant to an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project. Therefore, all impacts have been avoided or mitigated to a less-than-significant level and no further action is required. ☐

[Original signature on file] 1/30/03

Shaelyn Raab Strattan Date

Statewide Environmental Coordinator

EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers, except "No Impact", that are adequately supported by the information sources cited. A "No Impact" answer is adequately supported if the referenced information sources show that the impact does not apply to the project being evaluated (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on general or project-specific factors (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2. All answers must consider the whole of the project-related effects, both direct and indirect, including off-site, cumulative, construction, and operational impacts.

3. Once the lead agency has determined that a particular physical impact may occur, the checklist answers must indicate whether that impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate when there is sufficient evidence that a substantial or potentially substantial adverse change may occur in any of the physical conditions within the area affected by the project that cannot be mitigated below a level of significance. If there are one or more "Potentially Significant Impact" entries, an Environmental Impact Report (EIR) is required.

4. A "Mitigated Negative Declaration" (Negative Declaration: Less Than Significant with Mitigation Incorporated) applies where the incorporation of mitigation measures, prior to declaration of project approval, has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact with Mitigation." The lead agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level.

5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR (including a General Plan) or Negative Declaration [CCR, Guidelines for the Implementation of CEQA, § 15063(c)(3)(D)]. References to an earlier analysis should:

   a) Identify the earlier analysis and state where it is available for review.

   b) Indicate which effects from the environmental checklist were adequately analyzed in the earlier document, pursuant to applicable legal standards, and whether these effects were adequately addressed by mitigation measures included in that analysis.

   c) Describe the mitigation measures in this document that were incorporated or refined from the earlier document and indicate to what extent they address site-specific conditions for this project.

6. Lead agencies are encouraged to incorporate references to information sources for potential impacts into the checklist or appendix (e.g., general plans, zoning ordinances, biological assessments). Reference to a previously prepared or outside document should include an indication of the page or pages where the statement is substantiated.

7. A source list should be appended to this document. Sources used or individuals contacted should be listed in the source list and cited in the discussion.

8. Explanation(s) of each issue should identify:

   a) the criteria or threshold, if any, used to evaluate the significance of the impact addressed by each question **and**
   b) the mitigation measures, if any, prescribed to reduce the impact below the level of significance.

ENVIRONMENTAL ANALYSIS

The Environmental Analysis (Initial) Checklist was prepared to assess the proposed project's impact on the environment. The environmental setting for each topic describes the conditions currently existing at the project site. Potential environmental impacts, identified by checklist point, are addressed in the discussion section. For each impact identified as "less than significant with mitigation", mitigation measures have been specified to reduce the impact to a less than significant level.

ENVIRONMENTAL ISSUES

I. AESTHETICS.

ENVIRONMENTAL SETTING

Sinkyone Wilderness State Park (SWSP) lies in the rain-drenched coastal mountains of northwestern Mendocino and southwestern Humboldt counties. The area is a significant example of pristine coastline, with breathtaking views of the northern California coast, its plant communities, and wildlife resources. Wide-open views of the ocean and coastline from the ridges contrast with the dark, enclosed views from beneath the forest canopy. Steep coastal bluffs rise precipitously from the Pacific Ocean, fronted in places by narrow strips of beach, and topped by grassy marine terraces. In other areas the mountains rise like a wall directly from the ocean, and join the steep forested mountains above. The park also contains gently sloping coastal prairies and coastal scrublands, and a mix of thick Douglas-fir, coast redwood, and mixed evergreen forests.

The treatment area within SWSP is located in the northwest corner of Mendocino County, on the north coast of California. The northern extent of the treatment area lies about four miles south of the Humboldt/Mendocino County line and approximately 85 miles south of Eureka. The southern boundary is approximately seven miles due west of Leggett and 210 miles north of San Francisco. The park is long and narrow in shape and stretches for 14 miles along the coast, encompassing the western slope of the ocean-facing ridge of the coast range. The mountain range north of the park, known as the King Range National Conservation Area (NCA), is managed by the Bureau of Land Management (BLM). The King Range is similar to the Sinkyone area, with steep slopes that drop directly to the Pacific Ocean. When California's road system was being developed, rather than trying to construct a coast highway through this rugged country, Highway 1 was taken inland just south of the present park boundaries. This lack of coastal highway has given the area the reputation of the "Lost Coast". SWSP is one of only a few California coastal parks that are not located on or adjacent to any state or county highway.

Past road removal projects in Sinkyone have greatly improved aesthetic values in the park. Decompaction of old road surfaces and full recontouring of approximately five miles of roads in the early 1990's eliminated road scars and provided decompacted soils for natural revegetation. Removal of

old road scars adds to the proposed wilderness setting of the Park and natural vegetation has begun to hide the former road corridor.

The ruins of old buildings and large machinery located in the park are also considered aesthetic resources. The structures at the visitors' center appear rustic, are generally well cared for, and provide a focus to the historical uses of the area. Visitor use is generally concentrated on the coastal prairie, with views of level grassy marine terraces backed by dark green-forested hills. Other visitor areas are on the floors of larger stream canyons and provide scenic views of a coastal stream meandering from a steep-sided canyon across the beach to the sea.

One of the most valuable aesthetic features in the park is the Coastal Trail, which traverses the steep slopes above the Pacific Ocean. The trail has superlative vistas and is one of the only sections of coastal trail located in a remote "roadless" portion of California. Backpackers and equestrians use the trail during the summer months to access the backcountry camps. It offers visitors the opportunity to view wildflowers, birds, whales, rocks, trees, and the overall beauty of the Pacific Ocean viewshed. Another special landscape in the park is the sag pond area near the mouth of Whale Gulch. The sag pond is tucked behind a steep coastal cliff, immediately adjacent to the ocean, and is a marshy area surrounded by dense riparian vegetation. The area supports high biological diversity and is frequented by a herd of Roosevelt Elk.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	☒

DISCUSSION

a. The project sites are not visible from any vista point or scenic highway. The sites are located in remote backcountry portions of the park. The road removal sites will be very difficult to see from any of the visitor use areas. In a few locations where sites are visible, they would improve the aesthetics of the area by eliminating evidence of past logging activities. No impact.

b. None of the proposed project sites are within a state scenic highway easement or viewshed. The construction sites are confined to areas previously disturbed by clear-cut logging practices and would help improve the scenic resource of second growth redwood forest. Work would not take place adjacent to the sag pond area. The work would improve the wilderness characteristics by removing

road related-features that take away from the wilderness experience. Old-growth trees would be protected from damage, no rock outcrops would be damaged, and historic resources will be protected. No impact.

c. Eliminating stream crossings and restoring natural contours and drainage (as existed prior to logging and road construction) would improve aesthetic values. Short-term effects to local forest and prairie settings would occur as vegetation is disturbed for rehabilitation work. Exposed earth and dried vegetation may be visible for several years following treatment. Typically, prairie settings are more widely visible to visitors, but are also the fastest to recover, often within a few months. Grass reoccupies the disturbed area during the first growing season following construction. Forest settings take longer to recover, but work within these settings would have limited visibility and typically would not affect park viewsheds. The project would disturb vegetation on less than .2% of the Park.

   For safety reasons, work areas would be closed to the public during construction. Therefore, the general public would not view temporary visual effects as the work is progressing. Interpretative signs would be posted with information about the project at the nearest public use area and at all access points. After the closures are lifted, the public would be able to view the work locations; however, the final site conditions would closely match the previous undisturbed landform and would be much less obtrusive than the project during construction. Where change is visible, the interpretive panels would help the public visualize the final appearance of the recontoured road areas.

   Trees would be removed and scattered on exposed soil as mulch during road recontouring work. This can present an initial negative aesthetic effect, particularly in a park setting. The effect is transitory, however, as vegetation recovery is generally rapid in the north coast region. Because of the thick under-story vegetation and dense stands of trees adjacent to work sites, work would not be visible from most public use areas. The project would have a less than significant impact on the visual character of the area.

d. The project would not create glare because all larger trees, which moderate light intensities and provide shade to the site would be preserved along the road removal locations. Lighting is not an element of this project and no new light sources would be introduced into the landscape. All construction work would be limited to daylight hours, eliminating the need for work lights. This project would create no new source of light or glare and, therefore, would have no impact in this area.

II. AGRICULTURAL RESOURCES

ENVIRONMENTAL SETTING

The park is zoned "Recreation" and does not support any agricultural operations or farmland. The adjoining land to the east and south of the park is Industrial Timber Land. Land to the north of the project is zoned for Mixed Timber Production and is generally populated by small landowners who conduct small scale “homesteading”, including livestock grazing, small orchards, and gardens

POTENTIALLY	LESS THAN SIGNIFICANT	LESS THAN

	SIGNIFICANT IMPACT	WITH MITIGATION	SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?	☐	☐	☐	☒

* In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997), prepared by the California Department of Conservation as an optional model for use in assessing impacts on agricultural and farmland.

DISCUSSION

a) No land adjoining the project site in any direction is zoned as agricultural land or used for agricultural purposes, as defined by the United States Department of Agriculture land inventory and monitoring criteria, as modified for California. Therefore, this project would have no effect on any category of California Farmland, conflict with any existing zoning for agricultural use or Williamson Act contract, or result in the conversion of Farmland to non-agricultural use. No impact.

b) As noted in the Environmental Setting above, SWSP is zoned "Recreation" and does not support any agricultural operations or farmland. No impact.

c) Departmental policies and practices, deed restrictions, and other constraints related to acquisition of designated agricultural lands and the impacts of continued agricultural use on the park's operational and resource management needs, do not allow for agricultural uses in Sinkyone State Park. No impact to agricultural resources.

III. AIR QUALITY

ENVIRONMENTAL SETTING

The SWSP project sites are in Mendocino County, which is part of the North Coast Air Basin (Basin), under the jurisdiction of the Mendocino County Air Quality Management District (MCAQMD or District) and the United States Environmental Protection Agency (USEPA) Region IX. MCAQMD is the regional agency that regulates sources of air pollution within Mendocino County. The Districts boundaries are the same as Mendocino County and the District's Board of Directors is the Mendocino County Board of Supervisors. MSAQMD's main purpose is to enforce local, state, and federal air quality laws and regulations.

Frequent rains, ocean winds, generally very low levels of commuter traffic, and a small industrial base result in relatively clean air throughout all of Mendocino County. Because of these conditions, Mendocino County is currently in attainment with California standards for carbon monoxide, hydrogen sulfide, lead, ozone, nitrogen dioxide, sulfur dioxide, and sulfides. An area is designated in attainment if the state standard for the specified pollutant was not violated at any site during a three-year period.

The district is in non-attainment with California standards for particulate matter (PM10, or particles with an aerodynamic diameter of 10 microns or less). The major sources of PM 10 are combustion (e.g., woodsmoke; emissions from industry, automobiles, and diesel engines; and dust (e.g., airborne soil, road dust caused by vehicle travel). An area is designated in non-attainment if there was at least one violation of a state standard for the specified pollutant within the area boundaries.

The Basin is currently unclassified for visibility reducing particles (VRP's), but PM10 (which includes dust and smoke particles) is a VRP, indicating a possible reason for concern in this area. With respect to federal standards, the North Coast Air Basin is in an unclassified/attainment zone for both carbon monoxide and ozone and remains unclassified for PM10.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Conflict with or obstruct implementation of the applicable air quality plan or regulation?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☒	☐	☐
d) Expose sensitive receptors to substantial pollutant concentrations (e.g., children, the elderly, individuals with compromised respiratory or immune systems)?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

* Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied on to make the following determinations.

DISCUSSION

a) Work proposed in this project is not in conflict with or would not obstruct implementation of any applicable air quality plan for Mendocino County, the North Coast Air Basin, MCAQMD, or USEPA Region IX. The organic material generated during this project would not be burned. No diesel portable equipment would be used during the project. No impact.

b,c) The proposed project would not emit air contaminants at a level that, by themselves, would violate any air quality standard, or contribute to a permanent or long-term increase in any air contaminant. However, project construction would generate short-term emissions of fugitive dust (PM10) and involve the use of equipment and materials that would emit ozone precursors (i.e., reactive organic gases [ROG] and nitrogen oxides, or NOx). Increased emissions of PM10, ROG, and NOx could contribute to existing non-attainment of PM10 conditions and interfere with achieving the projected attainment standards. Consequently, construction emissions would be considered a potentially significant short-term adverse impact. Implementation of the following mitigation measures would reduce potential impacts to a less than significant level.

MITIGATION MEASURES AIR-1
• All equipment engines would be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all State and federal requirements. • Traffic speed on unpaved roads would be limited to 15 miles per hour (mph). • Excavation and grading activities would be suspended when sustained winds exceed 25 mph, instantaneous gusts exceed 35 mph, or when dust from construction might obscure driver visibility on public roads. • No more than eight pieces of heavy equipment would operate at the sites at the same time. No more than ten service vehicles would enter the project site at one time.

d) As noted in III (b,c) discussion above, project construction would generate a small amount of dust and equipment exhaust emissions for the duration of the project. The sites generally have sufficient soil moisture to reduce dust to low levels, especially at stream crossing excavations. Leaf litter and redwood needles provide protection from dust along access roads and vehicles would travel below 15 mph. No residences are located in the project sites. Backcountry campgrounds exist within a few miles of project sites and park. Visitors with conditions that would make them sensitive to these emissions would be advised of the option of avoiding the area altogether or remaining in portions of the park that would be upwind or protected from blowing dust or other emissions. Information signs would be posted at any campground near a construction site and at the visitor center advising visitors to avoid construction sites. The campground is buffered from the work site by thick second growth forest.

Heavy equipment operations may expose workers in the project area and vicinity to exhaust fumes and dust. The following mitigation measures, in conjunction with AIR-1 above, would reduce the potential adverse impacts to a less than significant level.

MITIGATION MEASURES AIR-2
• The cabs of heavy equipment, including seals, windows, and doors, would be kept in good serviceable condition to provide protection from exhaust and dust. Seals, windows and doors would be kept in good condition to provide protection when necessary. • Detected exhaust leaks would be repaired immediately to protect workers from exhaust exposure and reduce fire hazard. • Project inspectors would position themselves upwind of heavy equipment operations to reduce exposure to exhaust and dust. Equipment operators and inspectors would use dust masks to reduce inhalation of particulates, if they cannot position themselves upwind.

e) The proposed work would not result in the long-term generation of odors. Construction-related emissions might result in a short-term generation of odors, including diesel exhaust, and fuel vapors. Some park visitors and employees might consider these odors objectionable. However, because construction activities would be short-term and odorous emissions would dissipate rapidly in the air, with increased distance from the source, potential odor impacts would be considered less than significant.

IV. BIOLOGICAL RESOURCES

ENVIRONMENTAL SETTING

PLANTS

SWSP has a rich diversity of plant and animal life. Fifteen plant communities occur within the Park: blue blossom chaparral, blue gum grove, California bay forest, coast redwood forest, coastal bluff, coastal prairie, coastal strand, Douglas-fir forest, Douglas-fir & coast redwood forest, freshwater marsh, krummholz Douglas-fir forest & north coast scrub mosaic, mixed evergreen forest, north coastal scrub, overgrazed pasturage, and red alder riparian woodland. (Sinkyone Wilderness State Park Resource Inventory, 1987)

The blue blossom chaparral plant community occurs as a result of logging on the steep upper slopes, where topsoil has been depleted. The associated species include coyote brush (*Baccharis pilularis)*, cow parsnip (*Heracleum lanatum)*, Douglas-fir (*Pseudotsuga menziesii)*, sword fern (*Polystichum munitum)*, and tan oak (*Lithocarpus densiflorus)*. The community is serial to coniferous forest, meaning that, eventually, the coniferous species will succeed the blue blossom shrub in dominance.

The blue gum grove is a nonnative plant community dominated by an exotic tree from Australia, known as blue gum (*Eucalyptus globules)*. Three groves occur within the park near whale gulch, Bear Harbor, and at the old Usal town site.

The mesic canyon bottoms of the coastal watersheds support California bay forests. This community typically is a dense stand of California bay (*Umbellularia californica)* with little or no understory. In canyons and on moist slopes, it frequently intergrades with coast redwood forest. California bay stumps sprout vigorously after fire, and the length of time the community maintains dominance is closely linked to the regions fire history.

Prior to European settlement, the coast redwood community dominated the Sinkyone area. Thick stands of second growth redwood forest still exist in a few locations and a few small old-growth groves exist in Duffy's gulch and Jackass Creek. The coast redwood (*Sequoia sempervirens)* community includes Douglas-fir, huckleberry (*Vaccinium ovatum),* giant chinquapin (*Chrysolepis chrysophylla),* redwood sorrel, salal (*Gautheria shallon),* sword fern, thimbleberry (*Rubus parviflorus),* and tan oak.

The steep coastal bluffs in Sinkyone State Park vary from bare precipices to slopes supporting a sparse perennial herb cover to a herb-scrub mosaic. Harsh environmental conditions characterize the bluffs, which are frequently exposed to high winds, sand blast, and salt. The vegetation is comprised of perennials, many of which are succulent or otherwise adapted to persistent high salt levels and wind. Plant species common to the coastal bluffs include beach strawberry (*Fragaria chiloensis),* bush lupine (*Lupinus arboreus),* coyote brush, live-forever (*Dudleya farinose),* Pacific grindelia (*Grindelia stricta),* sea fig (*Carpobrotus aequilaterus),* seaside daisy (*Erigeron glaucuc),* silver beachweed (*Ambrosia chamissonis),* and Suksdorf's sagebrush (*Artemisia suksdorfii).* The coastal bluff scrub is a catastrophic climax community and, because of the powers of the ocean, it frequently experiences massive disturbances resulting from landslides.

The coastal prairies in SWSP are located on the coastal terraces in the north portion of the park and on steep slopes within the forest mosaic. The community includes native bunch grasses, herbaceous herbs, and exotic Mediterranean grasses. Portions of the prairies have been invaded by infestations of exotic plants, including Scotch broom (*Cytisus scoparius),* French broom (*Genista monspessulana),* and periwinkle (*Vinca major).* Characteristic native bunch grasses include *Agrostis, Calamagrostis, Danthonia, Deschampsia, Festuca, and Stipa.* Their relative abundance depends primarily on past disturbances, such as livestock grazing and agricultural uses.

A small area of coastal strand occurs at the mouth of Usal Creek. The coastal strand is exposed to high salt spray, sand blast, and a shifting sandy substrate with low water-holding capacity and low organic matter content. The coastal strand plant community is dependent on disturbance to maintain its dominance in an area. Shifting sands primarily during winter storms by the scouring effect of the ocean, which continually disturbs this community. The vegetation is characterized by low perennials and species richness and percent cover is low. The common species at Usal beach are morning-glory (*Calystegia soldanella),* beach primrose (*Camissonia cheiranthifolia),* sand verbena (*Abronia latifolia),* and exotic sea rocket (*Cakile maritime).* A number of exotic species from the neighboring overgrazed pasturage have invaded into this community. The rehabilitation project does not include any sites within the coastal strand habitat.

The Douglas-fir forests on the coastal slopes of SWSP have been severely impacted by past logging. Anderson Cliffs supports one of the last remaining old-growth Douglas-fir stands. Within the park, Douglas-fir occurs on soils of the Hugo and Josephine series as does the redwood forest, however, the fir tends to occupy the drier sites. The species associated with Douglas-fir include giant chinquapin (*Chrysolepis chrysophylla),* madrone (*Arbutus menziesii),* tan oak, bracken fern, California hazelnut (*Corylus cornuta),* Douglas iris, hedge nettle (*Stachys rigida),* wild rose, and thimbleberry (*Rubus parviflora).*

Freshwater marshes occur at two sag ponds just south of Whale Gulch. Floristically, this community is comprised of cattails (*Typha spp.),* bulrushes (*Scirpus spp.*), and sedges (*Carex spp.*). Several sensitive species may be present in this community within the park, including Bolander's reed grass (*Calamagrostis bolanderi*), swamp harebell (*Campanula californica*), and Thurber's reed grass (*Calamagrostis crassiglumis*). Emergent species such as cattails, due to their habitat and dense growth, create conditions that favor sediment accumulation. As sediment and organic matter accumulates, conditions change until, eventually, less water-tolerant species may become established. Because the perennial herbs that dominate this community establish and spread quickly, via vegetative reproduction, succession may be rapid. The rehabilitation project does not include any sites within the freshwater marsh habitat.

The krummholz Douglas-fir forest and north coastal scrub mosaic is a community that does not fit into common classification schemes. It occurs on coastal bluffs and slopes that are somewhat protected from salt spray by topography. The term "krummholz" is a word used to describe stunting caused by wind. Its species composition and dominance varies from site to site and is composed of species from both the Douglas-fir forest and the coastal scrub communities. The trees in this community are stunted by wind and do not exceed the height of neighboring shrubs.

Mixed evergreen forest occupies the drier sites on the margins of the coast redwood and Douglas-fir forests. Within the park, broad-leaf trees, 30-100 feet tall, dominate the community. Most species are sclerophyllous evergreens, but winter deciduous species also occur. Relatively little understory grows under the dense canopy. Characteristic associated plant species within the park include California laurel, coast redwood, coast rhododendron (*Rhododendron macrophyllum*), Douglas fir, giant chinquapin, madrone, and tan oak.

Scattered stands of north coastal scrub occur in the Park, primarily on the marine terraces and nearby slopes. They occur on windy, exposed sites with shallow, rocky soils, such as the sandstone parent materials of the Franciscan Formation. The community is comprised of low evergreen shrubs, which rarely exceed six feet in height. The plant species include bush lupine, bush monkey flower (*Mimulus aurantiacus*), California blackberry (*Rubus vitifolius*), coyote brush, cow parsnip, hedge nettle, Indian paintbrush (*Castelleja latifolia*), pearly everlasting (*Anaphalis margaritacea*) and poison oak. The north coastal scrub is a serial community with boundaries that fluctuate dramatically, depending on grazing pressures and fire history.

Historic grazing of cattle in the Park has impacted vegetation within the unit. Exotic species dominate several small, previously grazed pastures. Dominants include English plantain (*Plantago lanceolata*), red-stemmed filaree (*Erodium cicutarium*), soft chess (*Bromus mollis*), and wild barley (*Hordeum leporinum*). Native species of the coastal strand community occur occasionally, and probably dominated prior to grazing.

The red alder riparian woodland plant community is dominated by red alder (*Alnus oregona*) and grows near stream banks throughout the park. The community is confined to moist soils and is characterized by deciduous trees and occasional shrubs, with a sparse-to-dense understory of ferns and herbs. In addition to red alder, the community supports bigleaf maple, California blackberry, coltsfoot (*Petasites*

palmatus), horsetail (*Equisetum spp*), candy flower (*Montia siberica*), miners lettuce (*Montia perfoliata*), sword fern, red elderberry (*Sambucus callicarpa*), and willow (*Salix spp.*).

Over 400 vascular plant species have been identified as occurring in the park. Two Botanical surveys have been conducted in the project area by qualified botanical consultants. The survey conducted during the spring of 1995 identified five sensitive plant species within the park. Mendocino coast paintbrush (*Castilleja mendocinensis*), maple leaved checkerbloom (*Sidalcea malachroides*), leafy reed grass (*Calamagrostis foliosa*), redwood lily (*Lilium rubescens*), and California pinefoot (*Pityopus californicus*) were all located during the 1995 survey. The survey located leafy reed grass, redwood lily, and maple-leaved checkerbloom growing on abandoned logging roads.

A survey conducted in the spring of 2002 identified special status plants growing on roads proposed for removal (EDAW, Sinkyone State Park Botanical Survey, 2002). Over 44 miles of roads were surveyed using CNPS and DFG protocol, and 5 special status plant populations were located (See Sinkyone Botanical Survey Maps).

ANIMALS

The diversity of vegetation and habitat types at SWSP supports the existence of a variety of animal species. Three State and/or Federally listed avian species, the northern spotted owl (*Strix occidentalis caurina*), marbled murrelet, and bald eagle (*Haliaeetus leucocephalus*) have been documented in the park. The remaining old growth groves, scattered residual trees, and some second growth stands provide suitable habitat for spotted owl in the park. Northern spotted owls usually nest in tree cavities or in the broken tops of old trees that are protected by a dense multi-layered canopy. The owls select roosting and nesting locations based on thermoregulatory needs and seclusion. However, because the majority of the park contains scattered old trees and the second growth is in a state of recovery, all forested portions of the park are considered to be suitable foraging habitat.

The marbled murrelet is the only California alcid seabird that breeds in inland areas. The murrelet nests in dense old-growth forest, on very large limbs high up in the canopy. Murrelets have been heard calling in the Sinkyone area and have been seen afloat in the kelp offshore during summer months (Sinkyone Resource Inventory, 1987). The 700-acre Sally Bell Grove is assumed to be murrelet habitat, as well as a few small pockets of old-growth forest in the southern part of the park and some areas of scattered residuals.

Bald eagles live near large bodies of open water, such as lakes, marshes, seacoasts and rivers, where there are plenty of fish to eat and tall trees for nesting and roosting. They use a specific territory for nesting, feeding or a year-round residence and feed primarily on fish, but will also eat small animals (ducks, coots, muskrats, turtles, rabbits, snakes, etc.) and occasional carrion (dead animals). They can carry their food off in flight, but can only lift about half their weight. Bald eagles can fly at speeds of about 65 miles per hour in level flight, and up to 150 or 200 miles per hour in a dive. They can fly to altitudes of 10,000 feet or more, and can soar aloft for hours using natural wind currents and thermal updrafts. Bald eagles build large nests, called eyries, at the top of sturdy tall trees, and enlarge the nests every year by adding new nesting materials when they return to breed. The nests average two feet deep and five feet across. Bald eagles have a presence in every state, except Hawaii and are primarily seen in the park during the salmonid runs in winter months.

Peregrine falcon (*Falco peregrinus*) also has the potential to inhabit the park. Peregrines are found in woodland, forest, and coastal habitats. These raptors primarily nest on protected ledges or potholes on high cliffs in remote areas. However, recently they have been documented nesting in large broken top redwoods near Humboldt Bay (J. Harris, pers. comm. 2002). Their prey consists of birds, such as songbirds or shorebirds, and this swift predator catches its prey on the wing. The main cause of population decline is pesticide use, followed by capture for falconry purposes and habitat loss. Potential nesting habitat does occur along the coastal bluffs; however the proposed action should not affect this species due to the temporal operational restrictions for the northern spotted owl.

There is one special status reptile (Federal and State Species of Special Concern), the northwestern pond turtle (*Clemmys marmorata*), that occurs in the park (Sinkyone Resource Inventory, 1987). Four special status amphibians, the southern torrent salamander (*Rhyacotriton variegates*), the tailed frog (*Ascaphus truei*), the northern red-legged frog (*Rana aurora aurora*), and foothill yellow-legged frog (*Rana boylii*), also have the potential to occur in the park. These special status species have been located in seeps, springs, and watercourses in nearby Humboldt Redwoods State Park (Ashton, 2001, Amphibian Survey). Southern torrent salamander and tailed frogs have been located in crossing recontouring sites in Humboldt Redwoods that were removed two years prior to the survey (Ashton 2002).

SWSP contains numerous permanent and seasonal streams that may provide habitat for three listed fish species: the Coho salmon (*Onchorhynchus kisutch*), steelhead (*Onchorhynchus mykiss*), and the Chinook salmon (*Onchorhynchus tshawytscha*). However, because of the effects of past logging practices on the upper slopes, the two salmon species may have been extirpated from the Sinkyone watersheds. The lower reaches of the coastal streams are habitat for steelhead; however, the majority of stream crossing removal locations are upslope and on tributaries that are not habitat, due to their seasonal nature.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a sensitive, candidate, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse effect on federally protected wetlands, as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal,	☐	☐	☐	☒

	filling, hydrological interruption, or other means?				
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

DISCUSSION

a) DFG has been consulted on similar projects in the past and recommendations implemented in those projects to avoid and/or minimize impacts to rare, threatened or endangered species are reflected in the scope of this project. USFWS was also consulted as part of a Technical Assistance request to discuss rare, endangered, or threatened species and the resulting recommendations have also been incorporated into this project. The construction start dates for the sites were determined by the USFWS to avoid noise impacts to listed species, based on previous letters of Technical Assistance. (See site maps). Technical assistance for the northern spotted owl and marbled murrelet is currently being sought. No operations associated with this action would occur until a valid letter of Technical Assistance has been obtained and the recommendations amended into the Final MND, if necessary.

A primary goal of road rehabilitation is the improvement of habitat for, and protection of, rare, threatened, and endangered species. The project would be conducted in compliance with all applicable State and federal threatened and endangered species protection laws and regulations.

Plants

As indicated in the Environmental Setting above, five sensitive plant species were identified within the park: Mendocino coast paintbrush (*Castilleja mendocinensis*), maple leaved checkerbloom (*Sidalcea malachroides*), leafy reed grass (*Calamagrostis foliosa*), redwood lily (*Lilium rubescens*), and California pinefoot (*Pityopus californicus*). The survey located three sensitive plants growing on abandoned logging roads: the leafy reed grass, redwood lily, and maple-leaved checkerbloom. Work proposed as part of this project would have the potential to cause a significant impact to one or more of these sensitive species. Implementation of the mitigation measures indicated below would reduce any potential impact to a less than significant level.

A small portion of a population of *Sidelcea malchroides* located on Wheeler Road near Jackass Creek would be impacted (See Sinkyone Botanical Survey Map). At this location it would be necessary to construct a temporary access road. The road would be limited to a maximum width of 14 feet. This should not result in a significant adverse affect as 1) it would not impact a significant portion of the population, 2) there will be plants located on either side of the impacted area to provide stock for re-colonization, and 3) S. malchroides does appear to tolerate some disturbance (J. Harris, pers. comm. 2002).

MITIGATION MEASURES BIO-1 (PLANTS)
• Plant surveys have been conducted throughout SWSP on all road removal and stream crossing construction sites and special status plant occurrences have been mapped and flagged. Lists 1B and 2 plants would be avoided and no modifications would occur to the canopy cover or soils adjacent to individuals or populations. As previously noted, the exception to this is at Point 4 (See Sinkyone Botanical Survey Map) where a very small portion of a population of *Sidelcea malchroides* would be impacted by the construction of a temporary access road. However, this impact would not significantly impact the population.

Fish

The majority of the stream crossings are located on ephemeral or seasonal watercourses that do not offer fish habitat and would be dry during excavation. It appears that both Coho salmon and the Chinook salmon are no longer present in the Sinkyone watersheds, due to past logging practices on the upper slopes. While steelhead can still be found in the lower reaches of the coastal streams, the stream crossing removal locations are primarily upslope of these locations and on seasonal tributaries that are not habitat. However, there is the potential for a significant impact to the fish population or its habitat due to siltation and/or turbidity in areas with running water during construction, specifically where known or potential fish habitat would be downstream from crossing removal sites,. Implementation of the following mitigation measures would reduce any potential impact to a less than significant level.

MITIGATION MEASURES BIO-2 (FISH)

- Stream crossing excavations wouldl take place in dry channels or in channels where stream flow is below the minimum required for fish survival. Excavations have been designed to limit negative effects on water quality to the maximum extent practicable.
- In some crossings, where the stream is flowing at a slow rate and cannot be captured and diverted, filter structures would be installed downstream to filter turbid discharge from the worksite. In other crossings, where flow is sufficient to be intercepted, a small diversion dam would be built upstream and stream flow piped around the worksite and discharged into the stream below the work-site.
- On roads where potential sediment delivery to streams exists, construction activities after October 15th would proceed using general guidelines recommended by the National Marine Fisheries Service (NMFS) on road removal projects located on nearby federal lands, where feasible.
- Work in the rainy season (after October 15th) would only occur during dry spells, with materials for surface mulching on-site at all times. Work would be conducted so that no more than one-half day would be required to finish all earth moving and mulching work. All access roads would be winterized prior to any additional earth moving tasks.
- Any disturbed soil adjacent to stream channels would receive evenly distributed mulch coverage with masticated brush and trees to reduce sheet erosion. Mulch generated during the clearing phase of the rehabilitation work would be used on-site, to the maximum extent practicable.
- A DPR-qualified biologist or resource ecologist would periodically monitor work in high-risk sedimentation areas (as identified by the District Resource Ecologist) and consult with the on-site Project Manager regarding threshold sediment (i.e., quantity, quality, and duration) that may effect species of special concern at a specific site. Mitigation measures, as indicated above, would be modified as necessary to reduce potential sedimentation impacts to a less than significant level. Consultation with USFWS and/or CDFG would be conducted on an "as needed" basis.

Birds

The USFWS is providing technical assistance during the planning and implementation phases of watershed restoration work occurring throughout the area and has attended a field visit to the sites included in this project. A letter of Technical Assistance will be on file at the Arcata office of the US Fish and Wildlife Service and appended to the MND prior to the start of any construction. Technical assistance final determinations would be based on field visits by USFWS biologist and NCRD Senior Ecologist and analysis of survey results from BLM and Campbell Timber on adjacent lands.

Potential habitat for the State and Federally listed marbled murrelet exists in a few small portions of the project locations. The earth-moving sites are generally within an area that was clear-cut logged prior to DPR ownership. The potential marbled murrelet habitat in the park is primarily old growth redwood forest, with distinct boundaries marked by old clear-cut units in the northern portion of the Little Jackass watershed. One treatment site is within a quarter mile of suitable murrelet habitat.

Potential habitat for the northern spotted owl exists in the entire project area. The USFWS has identified potential roosting and nesting habitat in and around all the project locations. Old-growth trees would not be affected by road recontouring because, with the exception of some trees growing in

the road crossing or adjacent road embankment fill, only small understory trees less than 24" dbh would be removed. The USFWS biologist who reviewed the site also determined that trees growing along the roads slated for removal are not habitat for spotted owl. The following mitigation measures would be implemented to reduce any potential impacts to a less than significant level.

MITIGATION MEASURES BIO-3 (BIRDS)

- Work at sites within one-quarter mile of potential habitat for marbled murrelet would only take place between September 15 and March 24. The site maps identify start dates for protection of murrelets at known old-growth groves. Additional murrelet restrictions would be documented in a Technical Assistance letter with the USFWS.
- To avoid noise disturbances to Northern spotted owl, work within one-quarter mile of suitable roosting and nesting habitat would only occur between July 10 and January 31. Because the entire project is within one-quarter mile of potential habitat, all work would occur within this timeframe.
- Prior to operations the DPR inspector would be instructed in the identification of raptor nests (both occupied and unoccupied) and raptor breeding behavior. During operations the inspector would be responsible for assuring that no raptor nests are impacted by the proposed treatments.
- If an unoccupied raptor nest is detected then the nest tree would not be disturbed and the location reported to the District Resource Ecologist.
- If an occupied raptor nest is detected then the DPR inspector would cease operations within ¼ mile of the raptor nest and immediately notify the District Resource Ecologist. A minimum 300-foot habitat retention zone would be established around all active raptor nests. No operations would be allowed within this zone. In addition a ¼ mile temporal operation zone would be established around all raptor nests from February 01 though August 31. The DPR, through the District Ecologist would reserve the right to consult with DFG on site specific and species-specific mitigation measures. Any such changes would be amended into the MND, if necessary.

Amphibians

Park staff conducting the watershed inventory mapped potential amphibian habitat within the project area, which includes springs, seeps, and watercourses. Park staff have been trained in species identification and to identify potential habitat. At stream crossing removal sites, some loss of non-listed species may occur if they are within the road prism subsurface, but not sufficiently deep in the crossings to avoid being excavated. However, once road fill is removed and drainage restored, habitat quality in both the crossing vicinity and overall watershed would be greatly improved. Qualitative surveys of stream crossing removal sites following completion of past watershed rehabilitation projects indicate that implementation of this project is not likely to have a significant adverse impact on native amphibian species.

Trees

Some of the trees growing in road crossing or adjacent road embankment fill, regardless of diameter breast height (DBH), would be removed as part of the road rehabilitation process. Trees greater than 24 inches DBH, buried by fill that predates crossing or road construction, would be retained to the maximum extent possible. The limbs of these trees may be removed if required for access. Small

trees that are buried in fill that predates road construction would be left whenever practical. Tree roots would be avoided, as the excavations would not be deeper than the original ground surface. Some advantageous roots that have grown into embankment fill may be damaged. Therefore, the following mitigations would be implemented to reduce the potential impact to any species identified as a sensitive, candidate, or special status from this proposed project to a less than significant level.

MITIGATION MEASURES BIO-4 (TREES)
• Equipment operators would be required to avoid striking retained trees to minimize damage to the tree structure or bark. Contract specifications would establish fines for any damage to retained trees and fines would be levied on the contractor for such damage.

b) Some work would occur in riparian corridors at stream crossings. However, equipment would be working within existing road alignments at the crossings and would only affect previously impacted areas. Equipment would remain on existing road alignments and crossing fill areas to the maximum extent practicable. This project would have a less than significant impact to any riparian habitat or other sensitive natural community.

c) Technical assistance was requested from the U.S. Army Corps of Engineers (USACE or Corps). The Corps determined that "...a Department of the Army authorization will not be required since the activity will not involve the discharge of dredged or fill material into a water of the United States, including wetlands, pursuant to Section 404 of the Clean Water Act." No fill would be placed on springs, seeps, or wetlands. Therefore, this project would have no impact on any federally protected wetlands.

d) This project would have less than significant impact on the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. The relatively small area under construction at one time would only limit migration for a few days, at most, in any location. Stream crossing removal would generally take place in streams that are dry or have flow below that required for fish migration. The project would not impede the use of native wildlife nursery sites.

e) No local policies protecting biological resources currently exist. No impact.

f) The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because none exist for any project location. No impact.

V. CULTURAL RESOURCES

ENVIRONMENTAL SETTING

The original inhabitants of SWSP were Sinkyone people, who had a population of 4,000 in the area prior to European settlement. The Sinkyone who lived in the coastal watersheds moved seasonally, following

food supplies. Three permanent villages were located in the park. The people gathered acorns, hunted small game, snared deer and elk, collected berries, fished in the ocean, and harvested the abundant salmon runs. (Sinkyone Resource Inventory, 1987)

The Sinkyone people occupied permanent villages along the inland streams and rivers in the winter, and moved out in the spring, in family groups, to the hills to collect and dry food. They also moved to the coast for gathering seaweed, crustaceans, shellfish, fish, and sea mammals. Whales that washed ashore were shared by the entire group. Portions of the animals that were not utilized for food or tools were disposed of in piles. Many of the coastal middens were formed by this type of activity and there are several of these sites within the park. These sites are small areas of dark material, with varying concentrations of shell and sea mammal bone. Other archaeological sites include lithic scatter along ridgelines. Some of these sites have been interpreted as parts of trail corridors from permanent villages to the coast.

Another archaeological resource in the park are Sinkyone house depressions. The Sinkyone built four types of houses: two dwelling styles, a dance and sweat lodge, and a temporary brush enclosure. The circular semi-subterranean house, with a center pole, and the wedge-shaped lean-to were both walled with redwood slabs and madrone bark. Within the house depressions are remains of baskets and tools.

The primary Euro American resources at SWSP are the remains of agricultural endeavors and numerous wood industry sites. At historic locations, such as Bear Harbor, Usal, Wheeler, Northport, and Needle Rock, very little is left above ground to give insight into the businesses that were created, flourished, and died there. Each succeeding activity recycled or removed the construction of the previous venture. The history of SWSP has revealed an extensive socio-economic story of resource exploitation. Many of the features associated with historic activities have disappeared, although numerous sites have archaeological remains and physical scarring to show that man worked here. Open areas and marine terraces have been farmed and cultivated for grazing purposes. The hills and ravines show the signs of the harvesting of tanbark for processing leather and redwood logs to be converted into wood products known as “split stuff”. Euro American settlers built houses, camp kitchens, bunkhouses, bridges, shoring, warehouses and wharfs, and the framework for several wire chutes that lifted lumber products, wool, and baskets of eggs to the schooners and steamers anchored offshore.

Early settlers built a railroad at Needle Rock, while the Bear Harbor Railroad company built a line from the wharf at Bear Harbor that extended up Bear Harbor Creek, through the steep gap between the creek and Anderson Creek to the county road. At Usal, the Usal Redwood Company stretched seven miles of track from the wharf into the forest.

Numerous logging operations existed in the area from the latter half of the 19th century until well into the 20th century. During this time, wood products were shipped to market from Usal, Needle Rock, Anderson’s Landing, Northport, and Bear Harbor. The introduction of railroads and roads in the early 20th century shifted logging, milling, and shipping activities inland, away from the coast. Starting in the late 1950’s until park acquisition in the early 1980’s, the forests that had not been logged by early settlers were clear cut by large industrial operations. A network of haul roads was constructed throughout the watersheds and heavy equipment was used to blade hundreds of miles of skid road into the forests.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Cause a substantial adverse change in the significance of a historical resource, as defined in §15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource, pursuant to§15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

DISCUSSION

a) Cultural resources have been inventoried pursuant to PRC 5024 and specific mitigation measures have been prepared. Non-public disclosure to the Sinkyone Inter Tribal Council and/or the State Park Historian and Archeologist would take place to insure protection of sensitive pre-historic sites. Cultural resource sites and recommendations for avoiding impacts to those sites were identified in "A Cultural Resource Investigation of the Coastal Watersheds Rehabilitation Project". The report contains confidential information and is not available for public review. Special accommodations can be made to review the report by request from the Cultural Resources Division of California State Parks. Implementation of the following mitigation measures would reduce any potential impact to a less than significant level.

MITIGATION MEASURES CULT-1

- Site-specific surveys have been conducted to locate potentially significant historical resources. No excavation would occur within identified site boundaries. A DPR-qualified cultural resource specialist would monitor the identified sites when equipment travels across the site to access other project areas, or fill is being placed to cap the site. A witness layer of geotextile fabric would be placed on the existing ground surface prior to any fill being placed. If any excavation activities are proposed in the area of CA-MEN-1925, a detailed archaeological testing program would be implemented to determine the level of significance, integrity, and boundaries of the site. Required avoidance and/or mitigation measures, based on the results of testing, would be identified and implemented following approval of a DPR-qualified archaeologist, and Sinkyone Intertribal representative, if appropriate.
- In the event that previously undocumented cultural resources are encountered during project construction (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic trash), work within the immediate vicinity of the find would be temporarily halted or diverted. Work would not continue at the site until a DPR-qualified cultural resource specialist, in consultation with the Sinkyone Intertribal representative, if appropriate, has evaluated the find and implemented appropriate treatment and disposition of the artifact(s).
- Once any significant cultural resources are found in a project location, a DPR-qualified historian, archaeologist and/or appropriate Native American Tribal representative would monitor any ground-disturbing work in that area from that point forward.

b) Archeological resources have been identified within the project area (Sinkyone Wilderness State Park Resources Inventory, 1987) and are known to exist throughout the Park. Some of these sites have been previously impacted during road construction. No impact is anticipated, but if any archaeological resources were encountered, implementation of Mitigation Measure CULT-1 above would reduce the impact to a less than significant level.

c) No human remains or burial sites have been documented or are known to exist at the proposed project sites. No impact is anticipated, but if any human remains or burial artifacts are identified, implementation of Mitigation Measures CULT-2 below would reduce the impact to a less than significant level.

MITIGATION MEASURES CULT-2

- In the event that human remains are discovered, work would cease immediately in the area of the find and the project manager/site supervisor would notify the appropriate DPR personnel. Any human remains and/or funerary objects would be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized representative) would notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (NAHC) or Native American Tribal representative. If a Native American monitor is on-site at the time of the discovery, the monitor would be responsible for notifying the appropriate Native American authorities.

  If the coroner or tribal representative determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects would be cleaned, photographed, analyzed, or removed from the site prior to determination

  If it is determined the find indicates a sacred or religious site, the site would be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office and review by the NAHC/Tribal Cultural representatives would also occur as necessary to define additional site mitigation or future restrictions.

VI. GEOLOGY AND SOILS

ENVIRONMENTAL SETTING

SWSP is located in the California Coast Range, a northwest trending chain of mountains formed by the uplifted Pacific tectonic plate. The uplifted material consists of highly weathered sandstone, conglomerates, and sheared basalt. Soils developed from this parent material are deep, highly erosive soils with low cohesion. About 10 miles from the park, the Gorda tectonic plate collides with the North American and Pacific tectonic plates to form the Mendocino Triple Junction, the most seismically active area in the continental United States. Numerous other active faults exist within the park, including splinter portions of the northern San Andreas Fault.

The geologic activity, soil types, and high levels of rainfall have created steep and historically unstable slopes. The slopes were further destabilized by intensive land use practices in the Upper Coastal Watersheds that had no regulation, design, or engineering. Sediment and debris from the destabilized slopes has exacerbated flooding and deposited millions of tons of material into stream channels. The watersheds are in various stages of continued decay but, where rehabilitation efforts have been completed, recovery is occurring. On slopes where no rehabilitation efforts have occurred, watershed analysis has located numerous sites where the potential exists for massive erosion, including gullies and landslides, even where natural vegetation has been established.

The geology of the area is dominated by the Franciscan Complex, which is thought to have originated as ocean floor sediments deposited between 100 and 150 million years ago. The Franciscan rocks in the vicinity of the park belong to the Coastal Belt, which is a Subduction complex deposited along the North American plate margin. Sediments were stripped off the descending oceanic plate and accreted in fold or thrust pockets, forming linear ridges behind which sediments were ponded in slope basins. The Coastal Belt consists predominantly of greywacke (a poorly sorted, "dirty" sandstone), with minor siltstone, shale, conglomerate, and volcanic rocks. The rocks exhibit extensive deformation and shearing, with abundant secondary veining.

Along the coast, the geology of the Sinkyone area is revealed in precipitous sea cliffs, abrasion platforms, and sea stacks. Between Whale Gulch and Bear Harbor, two elevated marine terraces mantle the bedrock abrasion platform. The terraces were cut during relatively higher sea levels about 40,000 to 60,000 years ago. These ages correlate to an average tectonic uplift rate of approximately one-meter per 1,000 years, a rapid rate consistent with theories of warping and under-thrusting of the Gorda plate beneath the North American plate.

Landslides are common along the sea cliffs, including deep-seated rotational slumps, debris flows, and rock fall. Debris flows and rotational slides also occur along incised streams and adjacent to road cut and fills. The area is very highly seismically active, and the U.S. Geologic Survey has mapped a coastal fault, termed the Bear Harbor fault zone, from Usal to Whale Gulch. The fault parallels the nearby offshore San Andreas Fault zone. The southern end of the Whale Gulch fault zone strikes somewhat more northerly and terminates near the northern limit of the Bear Harbor fault zone. High seismic activity can be expected in this area, with associated ground shaking, block-falls, and liquefaction of saturated sediments.

The soils of SWSP are derived from the Franciscan Formation. The formation includes primarily sedimentary rock, along with some igneous and metamorphic rock material. The principal rock material is greywacke, highly variable sandstone with angular medium-sized grains, mixed with shale and siltstone. Igneous and metamorphic rocks are also combined in the substrate in some areas. The shale has a high proportion of angular mineral and rock fragments, with only a small amount of clay materials. Twenty-three soils series have been identified in the park, representing six of the ten established taxonomic soil orders. The US Soil Conservation Service has mapped the area into 20 separate mapping units on the basis of similar capabilities and management requirements. The mapping units include single series, complexes, associations, and miscellaneous areas. The complexes and associations are comprised of two or more related soils that are intermingled such

that separate delineation is not practical. Approximately 90% of the soils in the park were rated as high erosion hazard.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area, or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☒	☐
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable, as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1997), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste disposal systems, where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☒	☐	☐

DISCUSSION

a) While the chance of the rupture of a known earthquake fault, strong seismic ground-shaking, seismic-related ground failure, or landslides are certainly possible in this area, this project would not substantially increase the exposure of people or structures to risk of loss, injury, or death as a result of these events. The proposed project would not add any element or structure that would increase public exposure. Although those working on the project would be exposed to any event that might occur, SWSP lies within one of the most seismically active regions in the United States. Exposure for most of the employees would be similar whether working on the project or simply living and

working in the surrounding county. In fact, the time-weighted average exposure to seismic hazards is less at the rehabilitation site than it would be in an urban or suburban setting. Due to the remote location of the rehabilitation project, the seismic effects on the project area are unlikely to affect park visitors or staff not directly involved at the site.

Treatments proposed by this project would reduce mass wasting and surface erosion (landslides and mudflows), by eliminating the anthropogenic cause of these problems (e.g., roads, landings, and stream crossings). Treatments are designed to restore natural fluvial and riparian topography and surface hydrology, thereby increasing the stability of the rehabilitation sites.

Inspectors trained in landform rehabilitation would conduct direct oversight of the work to ensure that the treatment designs are complete, have a stable geometry, and blend well into the surrounding natural topography. The risk of injury or death, or other adverse effects of ground rupture, shaking, liquefaction, and landslides would be less than significant as a result of this project. Conditions for seiche or tsunami do not exist because road removal locations are inland from water bodies. No volcanic hazards exist in the project vicinity.

b) The purpose of the proposed work is to restore the natural topography of the area, to the greatest extent practicable. A temporary increase in erosion may occur at some locations because fill is re-exposed as part of the restoration, but the loss should not be substantial. Topography would change from the existing disturbed condition; imprudent grading, excavation, or fill placement during the restoration could initially affect natural topography. Minor side casting of mineral soil may bury some undisturbed topsoil downslope from the rehabilitated road; however this impact is limited by the comparatively larger area of restored slope. Overall, the work would diminish erosion and, with the implementation of Mitigation Measures GEO -1 and 2 below, any contribution to substantial soil erosion or loss of topsoil by the proposed project would be reduced to a less than significant level.

MITIGATION MEASURES GEO -1
• Inspectors trained in landform restoration would oversee the work to ensure that the final landforms have a natural appearance and stable geometry, to the greatest extent feasible. • The recontoured slopes would be compacted in lifts to prevent loose material from sloughing off, then smoothed and raked to provide uniform drainage and prevent concentration of flow. • Bare ground would be mulched to minimize surface erosion, using vegetation removed from the road prism prior to road recontouring.

MITIGATION MEASURES GEO-2 (STREAM CROSSINGS)

- Work would generally be conducted during the dry season when stream flow is minimal or non-existent.
- In channels with flowing water, a small collection pool would be created, using sand bags, to eliminate the potential for sediment transport, and the flow diverted around the site using flexible poly-pipe. The flow would be returned to the channel directly below the work site.
- If flow is dispersed or subsurface, a sediment filter would be temporarily placed downstream from the crossing excavation. The collection pool, pipe, and filter would be removed following the excavation.
- Mulch would be preferentially applied to stream crossing sites to reduce the delivery of sediment from surface erosion on crossing side-slopes. All exposed soil within 100 feet of a stream channel would have mulch applied to provide a minimum of 70% soil cover. Mulch applied at crossing sites would be pressed into contact with the ground surface.

c) The project is located within a geologic unit with unstable soil; however, the goal of the project is to stabilize the slopes and reduce the potential for landslides and lateral spreading associated with landslide head-scarps. The general public and most DPR employees would not be exposed to any additional geologic hazard as a result of this proposed project. The Roads, Trails, and Resources Section Associate State Park Engineering Geologist has reviewed the project and identified sites with potential instability. The DPR-approved construction techniques and appropriate Best Management Practices have been incorporated into the project to reduce the risks of landslides from the existing conditions. Liquefaction of recontoured material could occur if ground shaking took place during periods of high soil moisture. However, in such a situation, soils throughout the park would be susceptible to liquefaction and hazards from road treatments would only be slightly higher than other parts of the park. The project does not create conditions that would cause subsidence because all organic materials are removed before fill placement against cut banks. Soil and geologic conditions that could result in subsidence may exist at a few of the project sites. These sites would be stabilized by removing buried organic material, and removing fill material that may be susceptible to subsidence. The project would have a less than significant impact on geologic instability and, with implementation of the following mitigations, adverse impacts to worker safety due to existing geologic instability would also be reduced to a less than significant level.

MITIGATION MEASURE GEO-3

- All workers would be advised of high-risk areas and cautioned to use extreme care while working in those areas.
- All heavy equipment operators would be required to have experience working in conditions similar to the proposed project.
- A qualified inspector, trained in landform rehabilitation, would monitor equipment operation.
- Hand crews or other workers on the ground would be required to position themselves upslope of sites where excavations are actively under construction.
- Heavy equipment operators would be cautioned to minimize their exposure to unstable slopes that may occur naturally or result from the earthmoving process. Inspectors would continually evaluate slope geometry and caution operators if unstable conditions are indicated.

d) Expansive soils do not exist in the project area. No structures are being constructed. No impact.

e) No septic tanks or waste disposal systems would be constructed or impacted by this project. No waste disposal systems exist in the project sites. No impact.

f) There are no known unique paleontological resource or site or unique geologic features in the project area. However, if unique geologic features or paleontological features are found, implementation of the following mitigation measures would reduce any potential impact to a less than significant level.

MITIGATION MEASURE GEO-4
• In the event that previously undocumented unique paleontological resources or geologic features are encountered during project construction, work within the immediate vicinity of the find would be temporarily halted or diverted. Work would not continue at the site until the engineering geologist responsible for the project can make a determination of significance. • If evidence of soil displacement is observed along any faults that might be encountered during the grading, work would be halted or diverted at that site until a qualified paleoseismologist with background in soil stratigraphic can conduct an analysis and make a recommendation.

VII. HAZARDS AND HAZARDOUS MATERIALS

ENVIRONMENTAL SETTING

SWSP is relatively free of hazardous materials. The main materials used and stored in the park are limited amounts of motor fuel and lubricants. No fuel storage facilities exist within or adjacent to the park. Past fuel storage has contaminated areas surrounding the abandoned Wheeler town-site and testing wells are in place to monitor groundwater for potential fuels. Diesel fuel is transported through the park on Usal road by delivery trucks and personal vehicles to adjacent landowners. Park employees transport diesel to sites where heavy equipment is operating.

Past land uses may have caused small amounts of hazardous materials to be spilled into the environment. Scattered throughout the second growth portion of the park are empty 55 gallon barrels used for storage of fuel and lubricants for logging equipment. The barrels encountered to date have been empty and severely damaged by rust.

Physical hazards in SWSP are similar to any outdoor setting and include steep slopes, rushing water, poison plants, wild animals, disease carrying insects, and inclement weather. In addition, the project area is in a remote portion of Mendocino County and transportation to the nearest hospital would require a two-hour drive time in some locations. No airstrips exist within the park or adjacent to park property. Potential helicopter landing locations exist in grasslands scattered throughout the park. U.S. Coast Guard helicopters patrol the coastline on a regular basis.

		LESS THAN	
	POTENTIALLY	SIGNIFICANT	LESS THAN

WOULD THE PROJECT:	SIGNIFICANT IMPACT	WITH MITIGATION	SIGNIFICANT IMPACT	NO IMPACT
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and/or accident conditions involving the release of hazardous materials, substances, or waste into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites, compiled pursuant to Government Code §65962.5, and, as a result, create a significant hazard to the public or environment?	☐	☐	☐	☒
e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) Be located in the vicinity of a private airstrip? If so, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h) Expose people or structures to a significant risk of loss, injury, or death from wildland fires, including areas where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☒	☐	☐

DISCUSSION

a) The proposed project does not involve the disposal of hazardous materials. However, the project does involve the routine transportation of small amounts of diesel fuel to the work site. Construction activities would require the use of certain potentially hazardous materials, such as fuels, oils, and solvents. These materials are generally used for excavation equipment, generators, and other construction equipment and would be contained in vessels engineered for safe storage. Large quantities of these materials would not be stored at the construction site. Spills, upsets, or other construction-related accidents could result in a release of fuel or other hazardous substances into the environment. The mitigations indicated below would reduce the potential for adverse impacts from these incidents to a less than significant level.

MITIGATION MEASURES HAZMAT 1

- All equipment would be inspected for leaks immediately prior to the start of construction, and regularly inspected thereafter until equipment is removed from park premises. Leaks that develop would be repaired immediately in the field or work with that equipment would be suspended until repairs could be made.
- The contractor(s) would prepare an emergency spill response plan prior to the start of construction and maintain a spill kit on-site throughout the life of the project. This plan would include a map that delineates construction areas, where refueling, lubrication, and maintenance of equipment may occur. In the event of any spill or release of any chemical in any physical form on or immediately adjacent to the project sites or within SWSP during construction, the contractor would immediately notify the appropriate DPR staff (e.g., project manager or supervisor). Appropriate agencies would be notified in the event of significant spillage.
- Equipment would be cleaned and repaired (other than emergency repairs) outside the park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds would be disposed of outside park boundaries, at a lawfully permitted or authorized designation.

b) Failure of, or leakage from, vehicles or heavy equipment could result in the release of hazardous substances (primarily petroleum based products) to the ground or water, (seeVII(a) discussion above). Mitigation measure Hazmat-1 would reduce the potential for adverse impacts to a less than significant level. Although all discarded barrels discovered to date have been empty and pose no danger, there is still the potential to discover others containing unknown hazardous substances. Abandoned vehicles may also be found within the project sites. Implementation of the following mitigation measures, in conjunction with Hazmat-1 above, would reduce any potential impacts related to these finds to a less than significant level.

MITIGATION MEASURES HAZMAT 2

- If there is evidence of spillage from or free product in barrels discovered on or adjacent to the project sites, work would be halted or diverted from the immediate vicinity of the find and the District's hazardous materials coordinator would be contacted. Work would not resume until required avoidance and/or mitigation measures have be identified and implemented. Removal of all contaminants, including sludge, spill residue, or containers, would be conducted following established DPR procedures and in compliance with all local, state, and federal regulations and guidelines regarding the handling and disposal of hazardous materials.
- Abandoned vehicles located within the project sites would be removed and disposed of under the supervision of the hazardous materials coordinator.

c) The project is not located within one-quarter mile of any school and no schools are proposed for this area. No impact.

d) The road treatment sites in SWSP are not included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5. Therefore, no impact would occur with project development.

e-f) The project sites are not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip. Therefore, no impact would occur as a result of this project.

g) All construction activities associated with the project would occur within the boundaries of SWSP and work would not restrict access to or block any public road. Access to the project sites is limited and the roads proposed for treatment are not part of any emergency response or evacuation plan because they are already closed due to landslides, gullies, and tick brush. A general safety protocol for backcountry heavy equipment operations has been adopted by the NCRD for use within state parks, including SWSP, and would be implemented as part of this project. This protocol outlines broad safety issues common to all projects and presents guidelines on how to address those issues. It also requires project managers to develop a project specific safety plan for each rehabilitation project, including the identification of any existing emergency response plans. The project is designed and would be implemented to avoid any conflicts with existing plans or increase in emergency response time. Emergency response requirements for this project would be no greater than for any other backcountry activities.

Workers spend most of their work hours in remote wildland settings and may be exposed to natural hazards consistent with that environment (e.g., wild animals, insects, noxious plant, lightning, wind, etc.). However, all employees are issued first aid kits and are trained how to respond to anticipated and unanticipated incidents. Employees are also asked to disclose any sensitivity that might affect their employment tasks or increase the potential need for emergency medical care. Therefore, the impact of this project on an emergency response or evacuation plan would be less than significant.

h) Heavy equipment can get very hot during the warmer part of the work season and is sometimes in close proximity to flammable vegetation. Improperly outfitted exhaust systems or friction between metal parts crushing rocks could generate sparks. The safety plan developed for each project is reviewed by all project staff and includes job site characteristics to reduce the potential for fire. The following mitigations would reduce the potential for adverse impacts from these incidents to a less than significant level.

MITIGATION MEASURE HAZMAT-3

- A fire safety plan would be in place prior to the start of any construction, including availability of identified fire suppression equipment and any required employee training.
- Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers would be required for all heavy equipment.
- Construction crews would be required to park vehicles away from flammable material such as dry grass and brush. At the end of each workday, heavy equipment would be parked over mineral soil to reduce the chance of fire. All equipment would be required to be mechanically sound and free of flammable debris.
- Park staff would be required to have a State Park radio on site, which allows direct contact to California Department of Forestry and Fire Protection and centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.

VIII. HYDROLOGY AND WATER QUALITY

ENVIRONMENTAL SETTING

Water quality in SWSP ranges from extremely clear and free of any pollutants, in streams that drain from old growth forests, to turbid, very poor quality in areas previously impacted by humans. The North Coast Regional Water Quality Control Board (RWQCB) regulates water quality in the area of Californiawhere the park is located.

Precipitation in the park occurs primarily in the six months from November through April. Summer showers are infrequent, with winter rainfall accumulations of up to 80 inches. During the summer months, a thick fog frequently blankets the coastal areas. The prevailing wind direction is northwesterly during the spring, summer, and fall and shifts to southeasterly during the winter season. Wind speed along the coast is typically 15 to 25 mph, with gusts up to 50 mph during winter storms.

The park lies in an isolated hydrologic sub-area along the California coast, composed of numerous small perennial drainages and intermittent tributaries of the Pacific Ocean. Most of the park lies on the ocean side of a major northwest-southeast ridge system that rises to over 1,800 feet elevation. This ridge system roughly parallels the coastline, from 1 to 2 miles inland, and includes Jackass and Timber Ridges. The topography between the coast and ridgeline is rugged with deeply incised canyons and steep rocky cliffs. This area, which comprises the majority of the park, includes mostly first and second order streams, with one third-order channel, Jackass Creek. Surface water in the park flows in three directions, north toward the Mattole River, east toward the Eel River, and southwest directly into the Pacific Ocean.

Ground water in the park is relatively free of pollutants and considered very high quality because very few potential pollution sources exist. Monitoring wells have been in place at the old Wheeler townsite, where abandoned fuel tanks are located, and groundwater testing has been ongoing. The groundwater table in the park fluctuates annually, depending on rainfall and seasonal temperatures.

The groundwater table varies throughout the area because of the geological or topographical influences. The area does not serve to recharge commercially available aquifers because the entire region is within the coastal mountain range and the area drains to the nearby Pacific Ocean. Only small, localized aquifers exist that are contained within the park boundary. There are no public water sources in the area impacted by the proposed project. Campgrounds and the Visitors Center rely on small local water systems to provide water. The coastal area of northwestern Mendocino County is underlain by non-water bearing sandstone and shale bedrock of the Cretaceous age. Only 3% of the area is underlain with water-bearing deposits, two-thirds of which are alluvium of drowned river valleys and one third is marine terrace deposits.

All of the ocean tributaries along this section of the coast display a seasonal pattern of flooding at the channel mouths. There are three flood prone areas within the park; a minor area in the alluvial flats of Bear Harbor Creek and the larger alluvial floodplains of Jackass Creek and Usal Creek. The size of the watersheds and the heavy winter precipitation generate annual winter inundation on all floodplains, particularly prior to the natural breaching of the sand barrier or during storm-accentuated high tides.

Watersheds scientists have long recognized the impact of road building associated with logging activities throughout watersheds in the Pacific Northwest. Abandoned logging roads and poorly designed legacy service roads in the SWSP coastal watersheds are causing accelerated erosion and sediment delivery to the drainage network. Quantitative field assessments throughout the watersheds have revealed that disrupted surface hydrology is the primary agent, causing accelerated erosion from failed stream crossings, landslides from diverted runoff, and severe gullying of abandoned road surfaces.

California State Parks has conducted numerous watershed rehabilitation projects in SWSP to reduce road related failures in the past. Ongoing qualitative review and reporting on past projects has revealed increased slope stability, reduction in soil erosion, a reduction in sediment sources, rapid natural revegetation, and increased aquatic habitat in watersheds where road removal activities have occurred. State Parks, Redwood National Parks, BLM, USFS, and numerous private engineering firms have conducted research and road rehabilitation, and have documented the results of the work in adjacent watersheds. The results of the ongoing road rehabilitation work indicate high levels of success in improving hydrologic and geomorphic function, and enhancing aquatic and terrestrial habitat.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
WOULD THE PROJECT:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer	☐	☐	☒	☐

	volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?				
c)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site erosion or siltation?	☐	☐	☒	☐
d)	Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in on- or off-site flooding?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
f)	Substantially degrade water quality?	☐	☒	☐	☐
g)	Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map?	☐	☐	☐	☒
h)	Place structures that would impede or redirect flood flows within a 100-year flood hazard area?	☐	☐	☐	☒
i)	Expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam?	☐	☐	☐	☒
j)	Result in inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

DISCUSSION

a) The project would be in compliance with all applicable water quality standards and waste discharge requirements. (See Mitigation Measures Hazmat 1-3 regarding potential impacts from accidents, spills, or upset.). The project would result in a net decrease in non-point source pollution. Road rehabilitation is considered to be a management measure for the control of polluted runoff by the California Water Resources Control Board. The project is designed to reduce surface erosion and information generated by this and similar projects is assisting the State in developing techniques to achieve the Total Maximum Daily Load (TMDL). The project was also evaluated by the USACE, pursuant to the Clean Water Act, and it was determined that the project was exempt from USACE permitting requirements. Additionally, most work would be accomplished during the dry season, further lessening any chance of impact to surface water quality. The project scope does not include waste discharge work of any kind. Project location, design, and timing, in combination with the Hazmat mitigation measures indicated above for accidental hazardous material exposure, would result in a less than significant impact to water quality and waste discharge.

b) The project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Any water drafting by water trucks would be in compliance with requirements of the stream alteration agreement. Groundwater quantity may be influenced by changes in surface drainage patterns and/or changes in porosity of earth materials at fill sites. Increasing surface flows in certain locations through reconnection of channels would alter existing groundwater conditions at both the reconnected and the abandoned channel site. Newly restored fills would experience a period of interactive adjustment to groundwater flows as the fills consolidate over time; however, in the long term, both the fill and groundwater flows would evolve toward their pre-disturbance patterns. Fills would be compacted during their placement to speed this process of consolidation. Changes in the direction or rate of groundwater flow may be influenced by changes in surface drainage patterns. However, a qualified engineering geologist has reviewed the sites to ensure that site and offsite conditions would be enhanced by the work (i.e., reestablishing pre-disturbance conditions within limits of post-disturbance change). Substantial short-term reductions in the amount of groundwater otherwise available for public water supplies would not occur as a result of the project, and the amount of groundwater would eventually increase, due to the elimination of compacted road surfaces. Sinkyone sub-watersheds are not used for any public water supply and no Park water systems would be impacted. The water table adjacent to the crossing excavation may be lowered as saturated crossing fill is removed from the stream channel; however, this effect would be localized around the crossing site. Prior to construction, park staff familiar with the location of waterlines, would clearly mark the location of water systems or would show the project inspector personally. Impact of the project on groundwater supplies would be less than significant.

c) Existing (altered) drainage patterns generally would be restored to pre-disturbance patterns. In some cases, where pre-disturbance patterns cannot be restored, rehabilitation work may require the realignment of a stream segment. Reconnecting diverted streams to their natural flow pattern would increase discharge in abandoned channels. However, significant geomorphic adjustments are not likely to occur due to the increased discharge, because the reoccupied channels had originally formed under the post-treatment flow regime. Offsite affects of reestablishing pre-disturbance drainage patterns and discharge have been evaluated to ensure increased discharge would not adversely impact fluvial geomorphic functioning downstream. The following mitigations would reduce the potential for adverse impacts to a less than significant level.

MITIGATION MEASURES HYDRO-1

- Cutbanks exposing seeps or springs would not be recontoured. Instead, the embankment fill adjacent to the wet area would be exported to nearby dry sections of the road. An outsloped cutbench would extend along all wet road sections. No vegetation would be removed within 25 feet of a spring that emanates from a cut slope.
- If a long section of road were not suitable for full recontouring, the excavator would remove the embankment fill and load it into a dump truck to be end-hauled to a stable location on a nearby site proposed for recontouring site. The excavator and dozer recover the entire embankment fill and outslope the cutbench of the road. On steep linear road grades, broad swales would be constructed along the road at appropriate locations to convey flow into natural drainage features below the road.
- Road sections immediately adjacent to stream crossings would not be fully recontoured. Instead, the fill would be tapered toward the crossing and the cutbank laid back to a more stable slope. This reduces the slope on each side of the crossing, decreasing the chance for direct sediment delivery if a post-treatment slope failure should occur.
- If the stream has running water, it would be diverted away from excavation areas to reduce turbidity and returned to the channel immediately downstream. Where channel widths are wide enough, a berm would be constructed to divert water away from the work area. Where channels are narrow, a small diversion dam would be built upstream and stream flow piped around the worksite and discharged into the stream below the worksite. Instream filters would be installed where diversion is not possible. The project inspector would carefully monitor the structures to prevent failures.
- If the crossing has already partially failed, a small road bench would be reconstructed along the upstream end of the crossing to allow access to both sides of the crossing. A minimal amount of fill would be used and streamflow (if present) piped around the site or a culvert installed to convey streamflow under the temporary road.
- Logs and rocks would not be placed in the excavated channel because they cause lateral migration resulting in bank erosion. Instead, logs would be placed on the channel margins or span the removed crossing.
- All temporary berms, ponds, and piping would be completely removed at the completion of construction.

d) The project is designed to reduce peak runoff events and, combined with completion of the work during the dry season, would eliminate the possibility of project-related flooding on- or off-site. The work would significantly reduce compacted surfaces, increasing soil permeability and allowing rainwater to percolate into the soil. The work would eliminate unnatural concentrations of flow onto unstable slopes, thereby reducing peak runoff events. Runoff would be more naturally disbursed across the landscape and restored to natural flow paths. Stream diversions would be restricted to temporary ponding during periods of low flow (see Geo-2 and HYDRO-1 above). Although alterations of existing drainage patterns would occur as a result of this project, the intent of the project is to restore natural, pre-disturbance patterns that correct destructive flow. No significant impacts.

e) The project would not create or contribute runoff water in amounts that would exceed the capacity of existing or planned stormwater drainage systems, or provide substantial additional sources of polluted runoff. (See Discussion VIII(d) above.) No stormwater systems exist downslope from the project. No adverse impact.

f) The project, in and of itself, reduces soil erosion and sediment inputs to streams, thereby improving water quality once construction is complete and natural revegetation has occurred. However, there is the potential for short-term sedimentation and the accidental spillage of toxic substances (e.g., diesel fuel and hydraulic oil) during the construction process.

Diesel fuel and hydraulic oil are used in the heavy equipment, and are transported each day to the project site, using truck-mounted tanks. Diesel fuel is pumped from the truck to the equipment daily and involves a low potential for spillage. Hydraulic oils would be transported in five-gallon buckets, and would be available on-site, should accidental hose rupture require equipment oil tanks to be refilled. The potential to degrade water quality with these products is small because of the comparatively small volumes used at one time. Fuel spills could occur if a piece of equipment crashed or overturned. The likelihood of this occurring is low because of experience requirements. Oil spills may also occur during stream channel excavations. However, these are usually the result of limbs from trees becoming entangled in excavator hydraulics, and crossings generally are more open and have less potential for entanglement. (See Mitigation Measures Hazmat 1-3 regarding potential impacts from accidents, spills, or upset.)

Background turbidity levels in Sinkyone tributaries are high, due to past watershed disturbances, and the minor surface erosion of recontoured slopes and stream channel adjustments would have a small effect on turbidity levels. Short-term increases of turbidity may occur; however, long-term rates of turbidity would be higher without the work. The cumulative effect of crossing removal is an overall decrease in turbidity and improvement of aquatic habitat. Work may occur in flowing streams as part of culvert or crossing removal. Flow in most crossings is generally very low during the projected work period (late summer/early fall) and precautions would be taken to minimize exposure of equipment and personnel to flow. The average length of stream channel affected by crossing removal is approximately 100 feet in length. The work would also be spread over a three-year period, so that turbidity impacts to all of the Park's watersheds would be spread out over time.

Water quality would be improved as the rehabilitation process is implemented within an impacted watershed. However, a short-term increase in suspended sediment and bed load would occur downstream of the rehabilitation sites that are directly adjacent to streams, following rehabilitation work. Sediment would be delivered to the stream from gravel along the adjacent slopes and minor amounts of soil would be lost downslope during excavation. These effects would be limited to the first winter following treatment and, in most cases, to the first runoff-generating event of the winter. The minor surface erosion of recontoured slopes and stream channel adjustments would have minimal effect on current sediment levels. The effect on aquatic habitat would be apparent immediately downstream of the rehabilitation sites, but typically would not extend more than several hundred feet downstream. Sediment delivery from road segments not directly adjacent to streams would be limited to highly mobile debris flows or torrents, which have not been observed during post-treatment project reviews of recently completed projects. Long-term transport rates of suspended load and bed load

would be higher without rehabilitation work in other parts of the watershed (Madej, 2000). The cumulative long-term effect of removing stream crossings on water quality would be a reduction in suspended and bed load transport, improved fluvial-geomorphic functioning, and an improvement in the aquatic habitat throughout the drainage network.

During the rainy season, soils can become saturated, contributing to compaction, increased runoff, and turbidity. Saturated soil conditions mean that conditions are sufficiently wet that equipment displaces road and landing surface materials in amounts sufficient to cause a turbidity increase in drainage facilities that discharge into Class I, II, III or IV waters (as defined by the California Forest Practice Rules) or in downstream class I, II, III, or IV waters that is visible or would violate applicable water quality requirements. Saturated soils may be evidenced by reduced traction for equipment, as indicated by spinning or churning of wheels or tracks in excess of normal performance or inadequate traction without blading wet soil, pumping of road surface materials by traffic, and/or creation of ruts by traffic following normal road watering, which transports surface materials to a drainage facility that discharges directly into a watercourse. Work conducted in these conditions could result in a significant impact.

Implementation of the following mitigation measures, in conjunction with those in HAZMAT-1-3 and GEO-1-2, would reduce the project's potential adverse impacts to a less than significant level.

MITIGATION MEASURES HYDRO-2

- Following October 15th of any work year, any roads remaining open to service vehicles would be winterized by installing rolling dips at all stream and swale crossings; portions of the outside berm would be removed to allow drainage and any unstable fill would be pulled back from stream crossings.
- Following October 15th of any work year, work would not proceed in any area where soils have become saturated. Construction work would generally be limited to the dry periods of the year, when rain is unlikely.

g,h) The project does not involve housing or construction of any structure designed for human occupation. No impact.

i) The project would not expose people or structures to a significant risk of loss, injury, or death from flooding, including flooding resulting from the failure of a levee or dam. The project is designed to reduce downstream flooding and no levee or dam is involved with the project. Only small sediment filters and collection pools for temporary water diversion around construction sites would be used. The project reduces the potential for future catastrophic flood events in the Sinkyone sub-watersheds by reducing peak discharge and reducing sediment sources. No adverse impact.

j) The project would not result in inundation by seiche, tsunami, or mudflow because the sites are located above 400 feet in elevation, are inland from any water body, and would be designed to limit the risk of mudflow through application of engineering geologic techniques. Work would occur during dry periods or non-saturation to limit workers exposure to mudflow. The project site has been mapped extensively to locate any potential areas where landslides or mudflow could occur. The

project is designed to eliminate the potential for mudflow by compacting recontoured fill, placing fill away from springs or seeps, and/or placing fill on a flat, de-compacted surface. Less than significant impact.

IX. LAND USE AND PLANNING

ENVIRONMENTAL SETTING

The proposed project is located within the boundaries if Sinkyone Wilderness State Park, which is classified as State Park in the Public Resources Code, Section 5019.53. The purpose of land under this classification is to preserve outstanding natural, scenic, and cultural values, and indigenous aquatic and terrestrial fauna and flora. No General Management Plan exists currently for the unit, but DPR's Resource Management Directives define the techniques to be used in restoration of natural resources. The project area is within the Coastal Zone, with Coastal Commission permit jurisdiction delegated to the County of Mendocino Board of Supervisors. The area is zoned for recreation in Mendocino County. In addition to resource preservation, the park is used for public recreation, although the project sites are located in areas that are undeveloped and rarely used by visitors.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with the applicable land use plan, policy, or regulation of any agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

DISCUSSION

a) The project would not physically divide an established community because no community exists within the project boundary. The nearest communities are five miles away and include the towns of Whitethorn and Briceland, and the rural community of Whale Gulch. No impact.

b) The project would not conflict with any land use plan, policy, or regulation of any agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. In general, this project is designed to be an environmental enhancement and no land use plans have been implemented to regulate road removal. The project is within the Coastal Zone and is regulated by the Local Coastal Plan of Mendocino County. State and federal laws regulate aspects of the construction; however, the project would be consistent with all applicable laws and regulations. The area is zoned for recreation, but the project would not impact recreational uses because it is in a

portion of the park with very low use. After the project is completed, recreation would be enhanced by improving the aesthetic qualities of the site. Additionally, with the certification of this Mitigated Negative Declaration, the project would also be in compliance with CEQA. No impact.

c) The project would not conflict with any applicable habitat conservation plan or natural community conservation plan because no plans exist with jurisdiction over the Sinkyone watersheds. No impact.

X. MINERAL RESOURCES

ENVIRONMENTAL SETTING

No significant mineral resources have been identified within the boundaries of SWSP. Mineral resource extraction is not permitted within State Park property, under the DPR's Resource Management Directives.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Result in the loss of availability of a known mineral resource that is or would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

DISCUSSION

a) The project would not result in the loss of availability of a known mineral resource because no known mineral resources exist within the park. No impact.

b) The project would not result in the loss of availability of a locally important mineral resource recovery site because none exist within the park. No impact.

XI. NOISE

ENVIRONMENTAL SETTING

SWSP is located in rugged forested terrain in northern California, surrounded by steep mountains and the Pacific Ocean.

Existing noise affecting the project area results from helicopter logging on adjacent property, traffic on Usal Road, and very occasional air traffic, consisting of small private planes, Coast Guard helicopters, and CDF firefighting aircraft.

This park contains special status species that can be adversely affected by excessive noise during their nesting and breeding seasons. The USFWS has developed guidelines for eliminating noise impacts to

threatened and endangered wildlife species in this area. These guidelines include seasonal restrictions on the use of heavy equipment in potential habitat and/or during periods of nesting or the early phase of rearing of young. These restrictions apply to any use of heavy equipment throughout the region. The USFWS would provide technical assistance on this project regarding noise impacts prior to construction implementation. The USFWS staff has visited all recent past road rehabilitation projects proposed by the NCRD, including this project.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Generate or expose people to noise levels in excess of standards established in a local general plan or noise ordinance, or in other applicable local, state, or federal standards?	☐	☒	☐	☐
b) Generate or expose people to excessive groundborne vibrations or groundborne noise levels?	☐	☐	☒	☐
c) Create a substantial permanent increase in ambient noise levels in the vicinity of the project (above levels without the project)?	☐	☐	☐	☒
d) Create a substantial temporary or periodic increase in ambient noise levels in the vicinity of the project, in excess of noise levels existing without the project?	☐	☒	☐	☐
e) Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport? If so, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) Be in the vicinity of a private airstrip? If so, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

DISCUSSION

a) Construction noise levels at and near the project area would fluctuate, depending on the type and number of construction equipment operating at any given time. There are no noise-sensitive human land uses located in the vicinity of the project site that would be substantially effected by the proposed construction-related activities and no known noise standards applicable to this area (other than species-related noise restrictions - see Mitigation Measure BIO-3 for project constraints related to endangered and threatened species). However, depending on the specific construction activities being performed, short-term increases in ambient noise levels could result in speech interference near the project site. Implementation of the following mitigations, in conjunction with BIO-3, would reduce the any potential adverse impacts to a less than significant level.

MITIGATION MEASURES NOISE-1

- Construction activities would generally be limited to the hours between 6 a.m. and 6 p.m.; construction activities adjacent to campgrounds would be limited to the hours between 8 a.m. and 5 p.m.
- Internal combustion engines used for any purpose at the job site would be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction would utilize the best available noise control techniques (e.g., engine enclosures, acoustically-attenuating shields or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary.
- Stationary noise sources and staging areas would be located as far from sensitive receptors as possible. If they must be located near sensitive receptors, stationary noise sources would be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds.
- Construction workers would be required to wear earplugs during operations, if not otherwise protected.

b) The project would not generate or expose people to excessive groundborne vibrations or groundborne noise levels because only a few relatively small pieces of heavy equipment would be operating at any one time. The sizes of the machines used would not generate excessive vibrations. During similar past projects, the engineering geologist detected minimal groundborne vibrations immediately adjacent to the equipment. No significant impact.

c) Project-related noise would only occur during actual construction. Once construction is completed, all noise-generating equipment would be removed from the site. The project would not create any source that would contribute to a substantial permanent increase in ambient noise levels in the vicinity of the project. No impact.

d) See Discussion XI(a) above. No more than ten pieces of heavy equipment would be operating on this project at any one time throughout the park. The project sites would be closed to the public during construction and only construction workers would be affected by the equipment noise. Information signs posted at campgrounds would inform visitors of the minor inconvenience caused by service vehicles traveling through the area to access work sites. Because the sites are primarily in thick second growth forests, noise travels only a short distance before it becomes muffled by vegetation and wind. The work sites are well away from campgrounds and visitor use areas. Because the equipment usually moves about 300 to 1000 feet per day, noise impacts would be transitory. Implementation of the mitigations indicated in Mitigation Measure BIO-3 and NOISE-1 would reduce any potential impacts to a less than significant level.

e,f) The project is not within an airport land use plan and is not within two miles of an airport or private air strip; therefore, the project would have no impact.

XII. POPULATION AND HOUSING

ENVIRONMENTAL SETTING

The coastal watersheds in SWSP, where the project is located, contains no residential units except for the Visitors Center, which is occupied by a State Park volunteer. No other housing exists within the project area and no housing developments are planned at this time. Future land acquisitions in the area may include residential buildings or other structures, but such acquisitions are not related to or dependent on the proposed project. The entire project area is owned by State Parks.

The communities surrounding the park are small residential areas, with a few small businesses, hotels, and service stations, spread across northern Mendocino and southern Humboldt counties. These communities are generally economically depressed and are primarily supported by tourism during the summer months.

Construction and State Park staff generally live in the nearby small cities of Fortuna, Eureka, Arcata, Redway, Fort Bragg, Leggett, and Garberville. Occasionally, contract workers may camp on-site during the construction phase in travel trailers. The trailers are required to be self-contained and are located in the overflow campgrounds or in sites used by seasonal work crews.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

DISCUSSION

a,b,c) The project would not induce substantial population growth because the project does not involve housing or new businesses. The project would be removing abandoned forest roads that are not used by the general public and would have no direct or indirect effect on population growth. The project would have no more than 15 employees working at one time during the summer months. No replacement housing would be required, because all workers already maintain housing in the region or provide their own temporary facilities. No people would be displaced because the project only involves removal of abandoned logging roads that have no access or use by residences. All work would take place within the confines of the park boundaries, with no additions or changes to the

existing local infrastructure. Therefore, the project would have no impact on population growth or housing requirements in the area.

XIII. PUBLIC SERVICES

ENVIRONMENTAL SETTING

The watersheds proposed for rehabilitation are on steep hill slopes, covered in thick brush and second growth forest. The roads proposed for removal have been abandoned since park acquisition by DPR and are covered with brush, where compaction did not limit revegetation. Many of the stream crossings have failed during flood events and are impassable to vehicles and most hikers. The roads proposed for removal are not passable to fire suppression vehicles and would involve a much higher level of funding than is ever anticipated in any future DPR budget to open and maintain.

SWSP maintains a network of service roads for use by fire suppression crews, ranger patrol, and for access to a few power lines traversing the park. These roads would be reengineered as part of a different project, to provide improved drainage and a hardened base. The Usal, Wheeler, and Hotel Gulch Roads traverse the upper portion of the Sinkyone watersheds and are usable as access. Wheeler road is the only road that is open to fire suppression vehicles at this time. These roads are not included in this project.

Conditions on the roads proposed for removal present a hazard to anyone who might attempt to hike the abandoned road. Some portions of the roads remain in good condition and could attract visitors into potentially dangerous areas. Access to these locations is difficult in an emergency.

SWSP maintains full time ranger police protection all year, with primary patrol in campgrounds and public use areas. The Ranger staff is informed each year as to the location, staffing, and type of projects being implemented in the Sinkyone watersheds.

The California Department of Forestry and Fire Protection (CDF) provides fire protection for the project areas. CDF maintains fire stations in Leggett, Mattole, and Whitethorn, approximately 20 miles from the project location. The CDF Air Attack base is located in Rohnerville, approximately 40 air miles from SWSP.

No schools exist within the project area and the nearest school is over 5 miles away from the work sites, in the rural area of Whale Gulch.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Result in significant environmental impacts from construction associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, to maintain acceptable service ratios,	☐	☐	☐	☒

response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

DISCUSSION

a) Fire history in SWSP shows that the majority of fires have occurred accidentally or by arson along roads that were open to park visitors. Permanently closing and removing roads that are now overgrown with vegetation would reduce the potential for human-induced forest fires within the Park. A network of fire roads in the park would remain open to service and emergency vehicles only, and would be maintained in good travel condition. By removing features associated with abandoned roads, such as cut-slopes and gullies, fire line construction in the event of a wildfire would be easier to plan and construct in locations desirable for the ideal layout. The CDF Air Attack Base in Rohnerville is approximately 40 miles from SWSP, reducing response time in case of a fire. During the construction phase, DPR staff would have park radios on site at all times to ensure immediate direct contact to CDF fire dispatchers and crews. All heavy equipment and service vehicles would be required to carry a fire extinguisher and hand tools. (See Mitigation Measure HAZMAT-2.) . The project would have a less than significant impact on fire protection.

As noted in the Environmental Setting above, SWSP maintains Ranger police protection year-round, with primary patrols in campgrounds and public use areas. State Park Rangers have full law enforcement authority and only require assistance from local police as backup for unusual situations. No additional demands on Rangers or local police are expected as a result of this project.

No schools exist within or adjacent to the project area. No changes would occur that would effect existing schools or require additional schools or school personnel. No impact.

The project would improve SWSP by protecting the natural resources of the park. The project would improve the aesthetic quality of the slopes, improve visitor safety, reduce sediment sources and downstream flooding, and encourage natural revegetation. Since no public use areas would be closed or access limited as a result of this project, no other parks in the area should show a related increase in use. No adverse impact would occur at SWSP or any other public facilities as a result of this project.

The project, as a whole, or in part, would have a less than significant effect on any public services.

XIV. RECREATION

ENVIRONMENTAL SETTING

SWSP provides excellent recreational opportunities for local residence, tourists, and travelers from around the world. The remote location provides a "wilderness" experience for visitors who come for hiking, camping, fishing, wildlife viewing, and mountain biking. The main campground is located at the south end of the park, adjacent to the Usal creek estuary. Nine environmental camps also exist within the park and are located at various distances from trailheads. The environmental camps are the only locations where backcountry camping is allowed within the park. The areas that would be impacted by the proposed project are undeveloped, relatively inaccessible, and rarely used by visitors.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Increase the use of existing neighborhood and regional parks or other recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	☐	☐	☐	☒

DISCUSSION

a) The project would only slightly increase existing uses of the park, and would not accelerate the deterioration of any facility because the public does not use the roads proposed for removal. Construction workers may camp on site during the project; however, no more than four travel trailers would be used at this project. Human waste and trash would be contained and removed from sites where no facilities currently exist. The construction workers would be located adjacent to the work locations and would not impact use of campgrounds by park visitors.

No work would occur in the project on holidays or weekends. Work within ¼ mile of the campground would be limited to Monday through Friday, 8 am to 5 pm, to minimize noise impacts to park visitors.

The Low Gap trail would be removed and obliterated as part of this project. This trail is located on an old road with short sections of trail reroute connecting road segments together. The trail has numerous erosion problems that are contributing sediment directly into Low Gap creek. The alignment is extremely poor, due to its location directly adjacent to and, in some locations, within a coastal stream. The trailhead for this route is within a pre-historic archeology site and cannot be developed as a recreation facility. The trail is not needed for access to other portions of the park because access is provided to the coastal area on the Needle Rock road.

Some of the spur roads proposed for removal may have been used in the past for horseback riding and hiking. Most are now irreparably damaged by landslides and gullies. and are overgrown with thick brush. Numerous other trails and roads exist within the Park backcountry that would remain open during the summer work season. Official closure notices would be obtained and posted during the project implementation and post-treatment recovery phases to discourage cross-country hiking in the project area. The project would have a less than significant impact.

b) The project does not include the construction of recreational facilities or the expansion of any facility; therefore, no impact would occur.

XV. TRANSPORTATION/TRAFFIC

ENVIRONMENTAL SETTING

The roads proposed for rehabilitation do not serve as transportation routes and have been closed for over 20 years. They are overgrown with brush and scattered small trees. Numerous crossings have already failed and large gullies exist along many of the roads. Landslides and other mass wasting have also blocked these roads. The roads pose an attractive nuisance to visitors because some portions of the roads are accessible to hikers, who could follow the roads into dangerous locations. The roads, however, are in remote backcountry locations where few hikers visit.

Vehicle access to SWSP is possible by using the Briceland Road in the north and Usal road in the south. The Briceland Road is a Humboldt County-maintained road that links Garberville, California on Highway 101 to the Needle Rock Visitor Center in SWSP. The road is a narrow two-lane, and in many locations, single lane road that winds through the rugged mountain terrain of southern Humboldt County. It is paved from Garberville to the Park boundary, located the road's intersection with the northern portion of Usal Road, known as Four Corners. Beyond Four Corners to the west, the Briceland Road becomes a narrow dirt road that descends steeply down to the ocean terrace and Visitors Center. Portions of the work sites are accessed from the Briceland Road, ½ mile west of Four Corners.

The majority of the work sites are accessed from Usal Road, to the south of Four Corners. From Four Corners, the Usal Road meanders south along a forested ridge, passing back and fourth across the park boundary until it reaches Usal Campground. The majority of the work sites are accessible from the Usal Road at the north end of the park. The south portion of Usal Road is a Mendocino County-maintained road that links Hales Grove on Highway 1 to Usal Campground, Four Corners, Whale Gulch, and Shelter Cove. Usal Road is a narrow, single lane dirt road with steep grades and may require high clearance vehicles. The southern portion of Usal Road is closed during the rainy season between Usal Campground and Four Corners, due to poor road conditions.

	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
Would the project:				
a) Cause a substantial increase in traffic, in relation to existing traffic and the capacity of the street	☐	☐	☒	☐

	system (i.e., a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?				
b)	Exceed, individually or cumulatively, the level of service standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c)	Cause a change in air traffic patterns, including either an increase in traffic levels or a change in location, that results in substantial safety risks?	☐	☐	☐	☒
d)	Contain a design feature (e.g., sharp curves or a dangerous intersection) or incompatible uses (e.g., farm equipment) that would substantially increase hazards?	☐	☐	☐	☒
e)	Result in inadequate emergency access?	☐	☐	☒	☐
f)	Result in inadequate parking capacity?	☐	☐	☐	☒
g)	Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒

DISCUSSION

a) The maximum number of vehicle roundtrips on the county-maintained roads for all watershed rehabilitation project sites is 12 per day. This allows for vehicles trips related to operators, inspectors, and other agency staff involved in project oversight. Heavy equipment would remain at the project sites until work is completed. No significant impact.

b) The project would not cause traffic levels to exceed, individually or cumulatively, the level of service standards for designated roads or highways; the number of vehicles and frequency of travel related to this project is insignificant No impact.

c) The project sites are not located within an airport land use plan, within two miles of a public airport, or in the vicinity of a private air strip, and do not serve as a normal reporting point for air traffic in the area. Nothing in the proposed project would in any way affect or change existing air traffic patterns; therefore, no impact would occur as a result of this project.

d) The project does not contain a design feature or incompatible uses that would substantially increase traffic hazards. Roads proposed for removal have been closed for over 10 years and do not provide access to facilities, recreation sites, utilities, or private land. None of the roads would be reopened as a result of this project. No impact.

e) The project would not result in inadequate emergency access because all roads proposed for removal are already closed and inaccessible to emergency vehicles. The work would not disrupt normal emergency access to any portion of the park. If reengineering projects are under construction on roads used for emergency access, minor delays to emergency response could result. All reengineering sites would be left in a drivable condition at the end of each workday and on weekends. Equipment and

operators would be on site at all times during periods when roads are temporarily closed, and would be available to quickly return a construction site to a drivable condition. Less than significant impact.

f) The project would not result in inadequate parking capacity because it does not involve public access or public uses. The construction workers on this project would park service vehicles close to the work site and move the vehicle down the road a few hundred feet every couple of hours as work progresses. The work is in a location rarely used by visitors, and no visitor parking exists in the project area. Adequate parking exists in the nearby campground and day use areas and would not be altered or used by construction crews. No impact.

g) The project would not conflict with adopted policies, plans, or programs supporting alternative transportation because it does not reduce or increase transportation uses. No impact.

XVI. UTILITIES AND SERVICE SYSTEMS

ENVIRONMENTAL SETTING

The project roads do not contain any utilities or service systems. The area is a second growth forest in a remote wildland setting.

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Exceed wastewater treatment restrictions or standards of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities?	☐	☐	☐	☒
Would the construction of these facilities cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities?	☐	☐	☐	☒
Would the construction of these facilities cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination, by the wastewater treatment provider that serves or may serve the project, that it has adequate capacity to service the project's anticipated demand, in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted	☐	☐	☐	☒

	capacity to accommodate the project's solid waste disposal needs?				
g)	Comply with federal, state, and local statutes and regulations as they relate to solid waste?	☐	☐	☐	☒

DISCUSSION

a-b) No wastewater would be produced by this project. No impact.

c) The project would not require or result in the construction of new stormwater drainage facilities or expansion of existing facilities because no stormwater facilities are needed. No impact.

d) No outside source of water is required during construction; therefore, no impact.

e-g) No impact; no wastewater or solid waste would be generated by this project. Waste from construction workers would be deposited in existing facilities or hauled off site and disposed of in a facility designed for waste.

CHAPTER 4
MANDATORY FINDINGS OF SIGNIFICANCE

WOULD THE PROJECT:	POTENTIALLY SIGNIFICANT IMPACT	LESS THAN SIGNIFICANT WITH MITIGATION	LESS THAN SIGNIFICANT IMPACT	NO IMPACT
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal?	☐	☒	☐	☐
b) Have the potential to eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐
c) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means the incremental effects of a project are considerable when viewed in connection with the effects of past projects, other current projects, and probably future projects?)	☐	☐	☒	☐
d) Have environmental effects that would cause substantial adverse effects on humans, either directly or indirectly?	☐	☒	☐	☐

DISCUSSION

a) The proposed project was evaluated for potential significant adverse impacts to the natural environment. It has been determined that the proposed project has the potential to temporarily degrade the quality of the environment and adversely affect special-status plant and animal species. The project also has the potential to disrupt established drainage patterns; temporarily increase siltation, directional runoff, and erosion; and reduce the number of a special status plant. However, full implementation of all mitigation measures incorporated into this project would avoid or reduce these potential impacts to a less than significant level.

b) The proposed project has been evaluated for potential significant impacts to cultural resources. It has been determined that, with implementation of all proposed mitigation measures, no examples of significant cultural resources would be significantly impacted by the project

c) DPR has other smaller maintenance programs and rehabilitation projects, as well as routine, ongoing maintenance, planned for this park unit in the foreseeable future. However, full implementation of all mitigation measures incorporated into this project would reduce its impacts to a less than significant level. Impacts from environmental issues addressed in this evaluation do not overlap the

additional planned projects in such a way as to result in cumulative adverse impacts that are greater than the sum of the parts. Less than significant impact.

d) Most project-related environmental effects have been determined to pose a less than significant impact on humans. However, possible impacts from construction accidents and fire (Hazards and Hazardous Waste), landslides and earthquakes (Geology and Soils), sedimentation (Water Quality), and Noise, though temporary in nature, have the potential to result in significant adverse effects on humans. These potentially significant adverse impacts would be reduced to a less than significant level with the full implementation of all mitigation measures incorporated into this project.

CHAPTER 5
SUMMARY OF MITIGATION MEASURES

The following mitigation measures would be implemented by DPR as part of the Coastal Watershed Rehabilitation in SWSP.

AIR QUALITY

MITIGATION MEASURES AIR-1

- All equipment engines would be maintained in good condition, in proper tune (according to manufacturer's specifications), and in compliance with all State and federal requirements.
- Traffic speed on unpaved roads would be limited to 15 miles per hour (mph).
- Excavation and grading activities would be suspended when sustained winds exceed 25 mph, instantaneous gusts exceed 35 mph, or when dust from construction might obscure driver visibility on public roads.
- No more than eight pieces of heavy equipment would operate at the sites at the same time. No more than ten service vehicles would enter the project site at one time.

MITIGATION MEASURES AIR-2

- The cabs of heavy equipment, including seals, windows, and doors, would be kept in good serviceable condition to provide protection from exhaust and dust. Seals, windows and doors would be kept in good condition to provide protection when necessary.
- Detected exhaust leaks would be repaired immediately to protect workers from exhaust exposure and reduce fire hazard.
- Project inspectors would position themselves upwind of heavy equipment operations to reduce exposure to exhaust and dust. Equipment operators and inspectors would use dust masks to reduce inhalation of particulates, if they cannot position themselves upwind.

BIOLOGICAL RESOURCES

MITIGATION MEASURES BIO-1 (PLANTS)

- Plant surveys have been conducted throughout SWSP on all road removal and stream crossing construction sites and special status plant occurrences have been mapped and flagged. Lists 1B and 2 plants would be avoided and no modifications would occur to the canopy cover or soils adjacent to individuals or populations. As previously noted, the exception to this is at Point 4 (See Sinkyone Botanical Survey Map) where a very small portion of a population of *Sidelcea malchroides* would be impacted by the construction of a temporary access road. However, this impact would not significantly impact the population.

MITIGATION MEASURES BIO-2 (FISH)

- Stream crossing excavations wouldl take place in dry channels or in channels where stream flow is below the minimum required for fish survival. Excavations have been designed to limit negative effects on water quality to the maximum extent practicable.
- In some crossings, where the stream is flowing at a slow rate and cannot be captured and diverted, filter structures would be installed downstream to filter turbid discharge from the worksite. In other

crossings, where flow is sufficient to be intercepted, a small diversion dam would be built upstream and stream flow piped around the worksite and discharged into the stream below the work-site.

- On roads where potential sediment delivery to streams exists, construction activities after October 15th would proceed using general guidelines recommended by the National Marine Fisheries Service (NMFS) on road removal projects located on nearby federal lands, where feasible.
- Work in the rainy season (after October 15th) would only occur during dry spells, with materials for surface mulching on-site at all times. Work would be conducted so that no more than one-half day would be required to finish all earth moving and mulching work. All access roads would be winterized prior to any additional earth moving tasks.
- Any disturbed soil adjacent to stream channels would receive evenly distributed mulch coverage with masticated brush and trees to reduce sheet erosion. Mulch generated during the clearing phase of the rehabilitation work would be used on-site, to the maximum extent practicable.
- A DPR-qualified biologist or resource ecologist would periodically monitor work in high-risk sedimentation areas (as identified by the District Resource Ecologist) and consult with the on-site Project Manager regarding threshold sediment (i.e., quantity, quality, and duration) that may effect species of special concern at a specific site. Mitigation measures, as indicated above, would be modified as necessary to reduce potential sedimentation impacts to a less than significant level. Consultation with USFWS and/or CDFG would be conducted on an "as needed" basis.

MITIGATION MEASURES BIO-3 (BIRDS)

- Work at sites within one-quarter mile of potential habitat for marbled murrelet would only take place between September 15 and March 24. The site maps identify start dates for protection of murrelets at known old-growth groves. Additional murrelet restrictions would be documented in a Technical Assistance letter with the USFWS.
- To avoid noise disturbances to Northern spotted owl, work within one-quarter mile of suitable roosting and nesting habitat would only occur between July 10 and January 31. Because the entire project is within one-quarter mile of potential habitat, all work would occur within this timeframe.
- Prior to operations the DPR inspector would be instructed in the identification of raptor nests (both occupied and unoccupied) and raptor breeding behavior. During operations the inspector would be responsible for assuring that no raptor nests are impacted by the proposed treatments.
- If an unoccupied raptor nest is detected then the nest tree would not be disturbed and the location reported to the District Resource Ecologist.
- If an occupied raptor nest is detected then the DPR inspector would cease operations within ¼ mile of the raptor nest and immediately notify the District Resource Ecologist. A minimum 300-foot habitat retention zone would be established around all active raptor nests. No operations would be allowed within this zone. In addition a ¼ mile temporal operation zone would be established around all raptor nests from February 01 though August 31. The DPR, through the District Ecologist would reserve the right to consult with DFG on site specific and species-specific mitigation measures. Any such changes would be amended into the MND, if necessary.

MITIGATION MEASURES BIO-4 (TREES)

- Equipment operators would be required to avoid striking retained trees to minimize damage to the tree structure or bark. Contract specifications would establish fines for any damage to retained trees and fines would be levied on the contractor for such damage.

CULTURAL RESOURCES

MITIGATION MEASURES CULT-1

- Site-specific surveys have been conducted to locate potentially significant historical resources. No excavation would occur within identified site boundaries. A DPR-qualified cultural resource specialist would monitor the identified sites when equipment travels across the site to access other project areas, or fill is being placed to cap the site. A witness layer of geotextile fabric would be placed on the existing ground surface prior to any fill being placed. If any excavation activities are proposed in the area of CA-MEN-1925, a detailed archaeological testing program would be implemented to determine the level of significance, integrity, and boundaries of the site. Required avoidance and/or mitigation measures, based on the results of testing, would be identified and implemented following approval of a DPR-qualified archaeologist, and Sinkyone Intertribal representative, if appropriate.
- In the event that previously undocumented cultural resources are encountered during project construction (including but not limited to dark soil containing shellfish, bone, flaked stone, groundstone, or deposits of historic trash), work within the immediate vicinity of the find would be temporarily halted or diverted. Work would not continue at the site until a DPR-qualified cultural resource specialist, in consultation with the Sinkyone Intertribal representative, if appropriate, has evaluated the find and implemented appropriate treatment and disposition of the artifact(s).
- Once any significant cultural resources are found in a project location, a DPR-qualified historian, archaeologist and/or appropriate Native American Tribal representative would monitor any ground-disturbing work in that area from that point forward.

MITIGATION MEASURES CULT-2

- In the event that human remains are discovered, work would cease immediately in the area of the find and the project manager/site supervisor would notify the appropriate DPR personnel. Any human remains and/or funerary objects would be left in place or returned to the point of discovery and covered with soil. The DPR Sector Superintendent (or authorized representative) would notify the County Coroner, in accordance with §7050.5 of the California Health and Safety Code, and the Native American Heritage Commission (NAHC) or Native American Tribal representative. If a Native American monitor is on-site at the time of the discovery, the monitor would be responsible for notifying the appropriate Native American authorities.

- If the coroner or tribal representative determines the remains represent Native American interment, the NAHC in Sacramento and/or tribe would be consulted to identify the most likely descendants and appropriate disposition of the remains. Work would not resume in the area of the find until proper disposition is complete (PRC §5097.98). No human remains or funerary objects would be cleaned, photographed, analyzed, or removed from the site prior to determination

- If it is determined the find indicates a sacred or religious site, the site would be avoided to the maximum extent practicable. Formal consultation with the State Historic Preservation Office and review by the NAHC/Tribal Cultural representatives would also occur as necessary to define additional site mitigation or future restrictions.

GEOLOGY AND SOILS

MITIGATION MEASURES GEO-1

- Inspectors trained in landform restoration would oversee the work to ensure that the final landforms have a natural appearance and stable geometry, to the greatest extent feasible.
- The recontoured slopes would be compacted in lifts to prevent loose material from sloughing off, then smoothed and raked to provide uniform drainage and prevent concentration of flow.
- Bare ground would be mulched to minimize surface erosion, using vegetation removed from the road prism prior to road recontouring.

MITIGATION MEASURES GEO-2 (STREAM CROSSINGS)

- Work would generally be conducted during the dry season when stream flow is minimal or non-existent.
- In channels with flowing water, a small collection pool would be created, using sand bags, to eliminate the potential for sediment transport, and the flow diverted around the site using flexible poly-pipe. The flow would be returned to the channel directly below the work site.
- If flow is dispersed or subsurface, a sediment filter would be temporarily placed downstream from the crossing excavation. The collection pool, pipe, and filter would be removed following the excavation.
- Mulch would be preferentially applied to stream crossing sites to reduce the delivery of sediment from surface erosion on crossing side-slopes. All exposed soil within 100 feet of a stream channel would have mulch applied to provide a minimum of 70% soil cover. Mulch applied at crossing sites would be pressed into contact with the ground surface.

MITIGATION MEASURES GEO-3

- All workers would be advised of high-risk areas and cautioned to use extreme care while working in those areas.
- All heavy equipment operators would be required to have experience working in conditions similar to the proposed project.
- A qualified inspector, trained in landform rehabilitation, would monitor equipment operation.
- Hand crews or other workers on the ground would be required to position themselves upslope of sites where excavations are actively under construction.
- Heavy equipment operators would be cautioned to minimize their exposure to unstable slopes that may occur naturally or result from the earthmoving process. Inspectors would continually evaluate slope geometry and caution operators if unstable conditions are indicated.

MITIGATION MEASURES GEO-4

- In the event that previously undocumented unique paleontological resources or geologic features are encountered during project construction, work within the immediate vicinity of the find would be temporarily halted or diverted. Work would not continue at the site until the engineering geologist responsible for the project can make a determination of significance.
- If evidence of soil displacement is observed along any faults that might be encountered during the grading, work would be halted or diverted at that site until a qualified paleoseismologist with background in soil stratigraphic can conduct an analysis and make a recommendation.

HAZARDS AND HAZARDOUS MATERIALS

MITIGATION MEASURES HAZMAT-1

- All equipment would be inspected for leaks immediately prior to the start of construction, and regularly inspected thereafter until equipment is removed from park premises. Leaks that develop would be repaired immediately in the field or work with that equipment would be suspended until repairs could be made.
- The contractor(s) would prepare an emergency spill response plan prior to the start of construction and maintain a spill kit on-site throughout the life of the project. This plan would include a map that delineates construction areas, where refueling, lubrication, and maintenance of equipment may occur. In the event of any spill or release of any chemical in any physical form on or immediately adjacent to the project sites or within SWSP during construction, the contractor would immediately notify the appropriate DPR staff (e.g., project manager or supervisor). Appropriate agencies would be notified in the event of significant spillage.
- Equipment would be cleaned and repaired (other than emergency repairs) outside the park boundaries. All contaminated water, sludge, spill residue, or other hazardous compounds would be disposed of outside park boundaries, at a lawfully permitted or authorized designation.

MITIGATION MEASURES HAZMAT-2

- If there is evidence of spillage from or free product in barrels discovered on or adjacent to the project sites, work would be halted or diverted from the immediate vicinity of the find and the District's hazardous materials coordinator would be contacted. Work would not resume until required avoidance and/or mitigation measures have be identified and implemented. Removal of all contaminants, including sludge, spill residue, or containers, would be conducted following established DPR procedures and in compliance with all local, state, and federal regulations and guidelines regarding the handling and disposal of hazardous materials.
- Abandoned vehicles located within the project sites would be removed and disposed of under the supervision of the hazardous materials coordinator.

MITIGATION MEASURES HAZMAT-3

- A fire safety plan would be in place prior to the start of any construction, including availability of identified fire suppression equipment and any required employee training.
- Spark arrestors or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers would be required for all heavy equipment.
- Construction crews would be required to park vehicles away from flammable material such as dry grass and brush. At the end of each workday, heavy equipment would be parked over mineral soil to reduce the chance of fire. All equipment would be required to be mechanically sound and free of flammable debris.
- Park staff would be required to have a State Park radio on site, which allows direct contact to California Department of Forestry and Fire Protection and centralized dispatch center, to facilitate the rapid dispatch of control crews and equipment in case of a fire.

HYDROLOGY AND WATER QUALITY

MITIGATION MEASURES HYDRO-1

- Cutbanks exposing seeps or springs would not be recontoured. Instead, the embankment fill adjacent to the wet area would be exported to nearby dry sections of the road. An outsloped cutbench would extend along all wet road sections. No vegetation would be removed within 25 feet of a spring that emanates from a cut slope.
- If a long section of road were not suitable for full recontouring, the excavator would remove the embankment fill and load it into a dump truck to be end-hauled to a stable location on a nearby site proposed for recontouring site. The excavator and dozer recover the entire embankment fill and outslope the cutbench of the road. On steep linear road grades, broad swales would be constructed along the road at appropriate locations to convey flow into natural drainage features below the road.
- Road sections immediately adjacent to stream crossings would not be fully recontoured. Instead, the fill would be tapered toward the crossing and the cutbank laid back to a more stable slope. This reduces the slope on each side of the crossing, decreasing the chance for direct sediment delivery if a post-treatment slope failure should occur.
- If the stream has running water, it would be diverted away from excavation areas to reduce turbidity and returned to the channel immediately downstream. Where channel widths are wide enough, a berm would be constructed to divert water away from the work area. Where channels are narrow, a small diversion dam would be built upstream and stream flow piped around the worksite and discharged into the stream below the worksite. Instream filters would be installed where diversion is not possible. The project inspector would carefully monitor the structures to prevent failures.
- If the crossing has already partially failed, a small road bench would be reconstructed along the upstream end of the crossing to allow access to both sides of the crossing. A minimal amount of fill would be used and streamflow (if present) piped around the site or a culvert installed to convey streamflow under the temporary road.
- Logs and rocks would not be placed in the excavated channel because they cause lateral migration resulting in bank erosion. Instead, logs would be placed on the channel margins or span the removed crossing.
- All temporary berms, ponds, and piping would be completely removed at the completion of construction.

MITIGATION MEASURES HYDRO-2

- Following October 15th of any work year, any roads remaining open to service vehicles would be winterized by installing rolling dips at all stream and swale crossings; portions of the outside berm would be removed to allow drainage and any unstable fill would be pulled back from stream crossings.
- Following October 15th of any work year, work would not proceed in any area where soils have become saturated. Construction work would generally be limited to the dry periods of the year, when rain is unlikely.

NOISE

MITIGATION MEASURES NOISE-1

- Construction activities would generally be limited to the hours between 6 a.m. and 6 p.m.; construction activities adjacent to campgrounds would be limited to the hours between 8 a.m. and 5 p.m.
- Internal combustion engines used for any purpose at the job site would be equipped with a muffler of a type recommended by the manufacturer. Equipment and trucks used for construction would utilize the best available noise control techniques (e.g., engine enclosures, acoustically-attenuating shields or shrouds, intake silencers, ducts, etc.) whenever feasible and necessary.
- Stationary noise sources and staging areas would be located as far from sensitive receptors as possible. If they must be located near sensitive receptors, stationary noise sources would be muffled to the extent feasible and/or, where practicable, enclosed within temporary sheds.
- Construction workers would be required to wear earplugs during operations, if not otherwise protected.

CHAPTER 6
REFERENCES

Anderson, Karin, 2001 DPR Archeologist, Review of Best Management Practices for Full Road Recontouring.

Ashton, D., 2000, Amphibians of Humboldt Redwoods State Park: A Power Point Presentation. EarthHerp Consultants.

Ashton, D., 2001, Amphibian Survey – Upper Coastal streams; Humboldt Redwoods State Park. EarthHerp Consultants.

Bivens, M., and Lepic, G., 2000, Watershed Rehabilitation Rare Plant Surveys: Humboldt State University Foundation.

Cultural Resource Review for the Mill Creek Road Rehabilitation Project 2001.

Cline, T., 2000, California State Park Trail Building and Rehabilitation Projects: Southern Torrent Salamander Surveys.

California Natural Diversity Database (NDDB), Natural Heritage Division, California Department of Fish and Game, Sacramento California, 2000. Electronic search.

Gonzales, A., 2000, California Department of Fish & Game (DFG). Technical Assistance.

Hoffman, K., 2001, U.S. Fish and Wildlife Service (USFWS) Arcata Office, Technical Assistance.

Johnson, Stephen, 1995, Factors Supporting Road Removal and/or Obliteration, USDA Forest Service.

Madej, Mary Ann, 2000, Erosion and Sediment Delivery Following Removal of Forest Roads, US Geological Survey Western Ecological Research Center.

Moll, J., 1996, A Guide for Road Closure and Obliteration In the Forest Service: USDA Forest Service Technology and Development Program, 49p.

John Kelly, DPR Archeologist, and Joe Hood, DPR Historian, PRC 5024 Project Evaluation.

Newland, M., 2001 Staff Archeologist Anthropological Studies Center, Sonoma State University,

Staff, 1987, Sinkyone Resource Inventory, California Department of Parks and Recreation, Northern Service Center, 92p.

Spreiter, T., 1992, Watershed Restoration Manual: Redwood National Park, 39p.

Weaver, B. and Hagans, D., 1994, Handbook for Forest and Ranch Roads: Pacific Watershed Associates, 161p.

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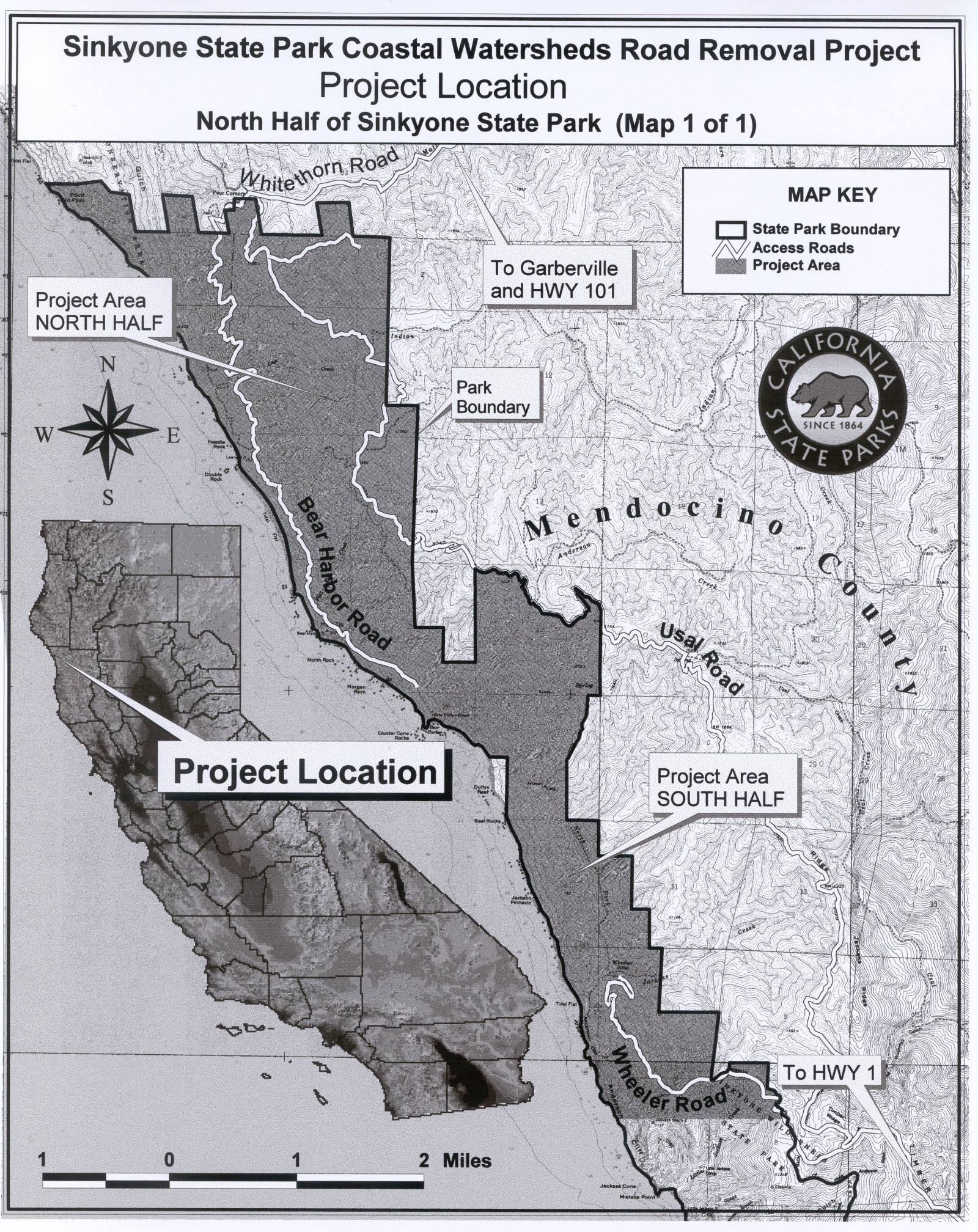
Acquisition and Development Division

APPENDIX A

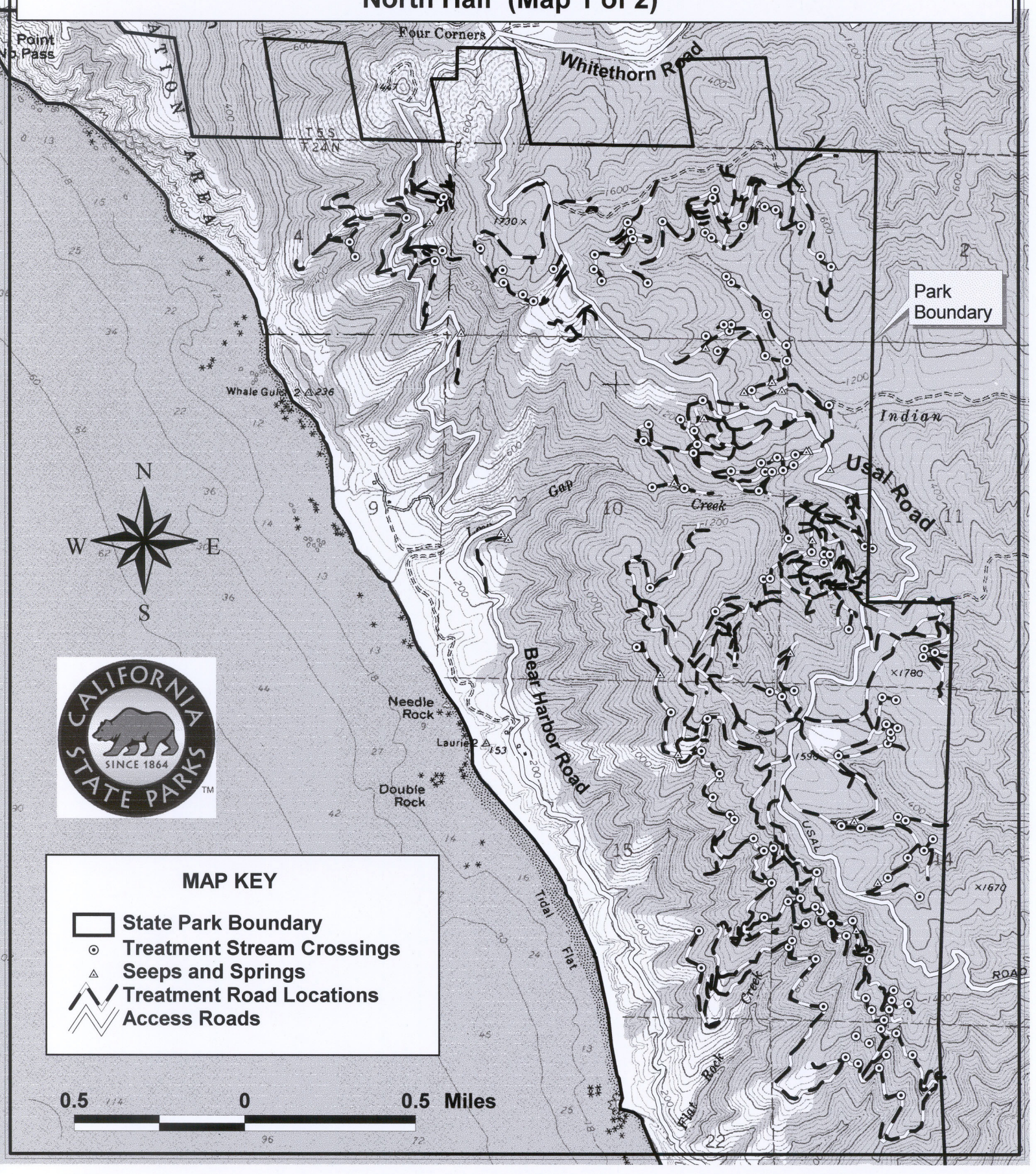
MAPS


Sinkyone State Park Coastal Watersheds Road Removal Project
Project Location
North Half of Sinkyone State Park (Map 1 of 1)
MAP KEY
State Park Boundary
Access Roads
Project Area
Whitethorn Road
To Garberville and HWY 101
Project Area NORTH HALF
Park Boundary
Bear Harbor Road
Mendocino County
Usal Road
Project Location
Project Area SOUTH HALF
Wheeler Road
To HWY 1
N
W
E
S
1 0 1 2 Miles
CALIFORNIA STATE PARKS
SINCE 1864

Sinkyone State Park Coastal Watersheds Road Removal Project

Treatment Roads, Stream Crossings, and Springs

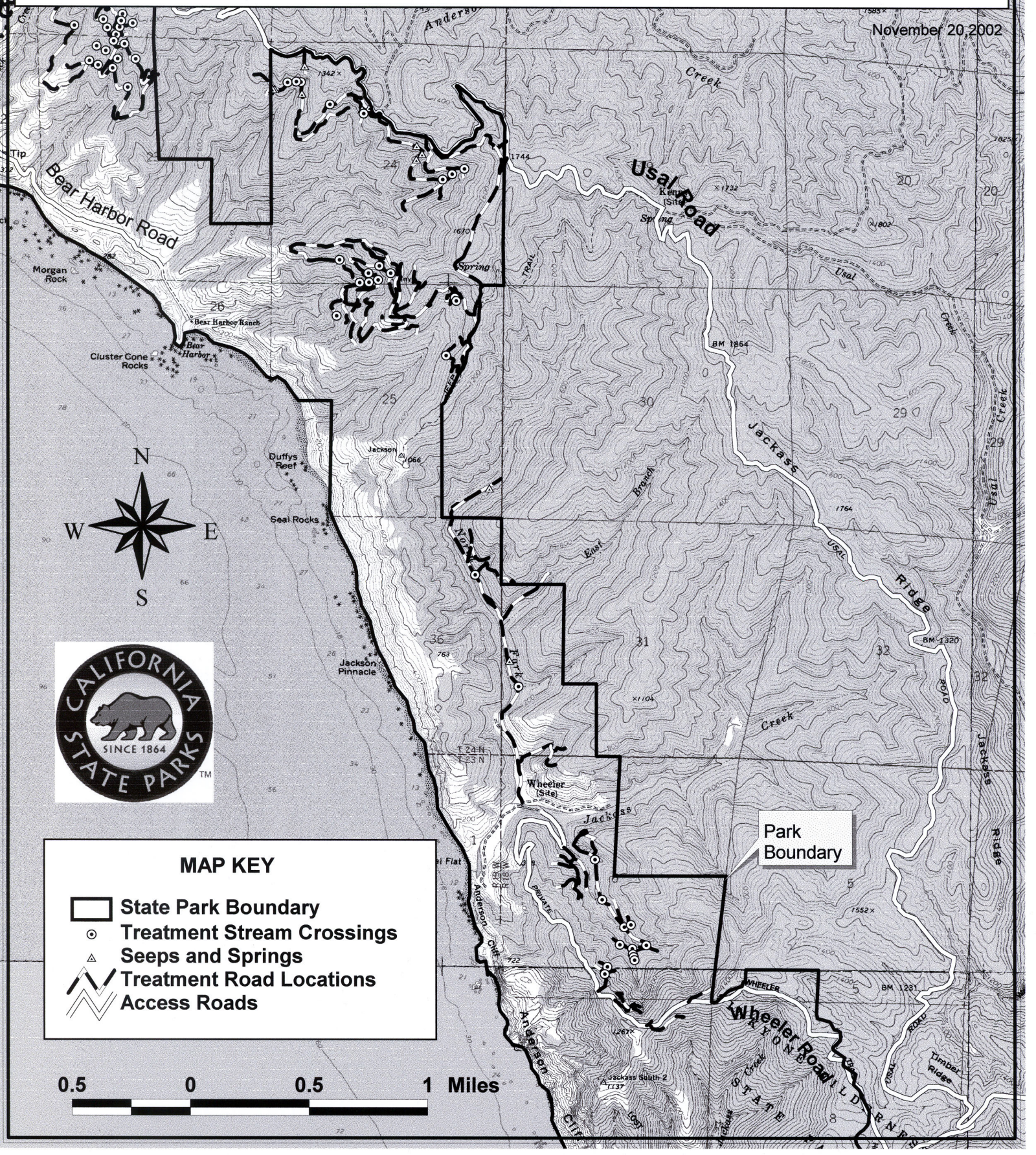
North Half (Map 1 of 2)



Sinkyone State Park Coastal Watersheds Road Removal Project

Treatment Roads, Stream Crossings, and Springs

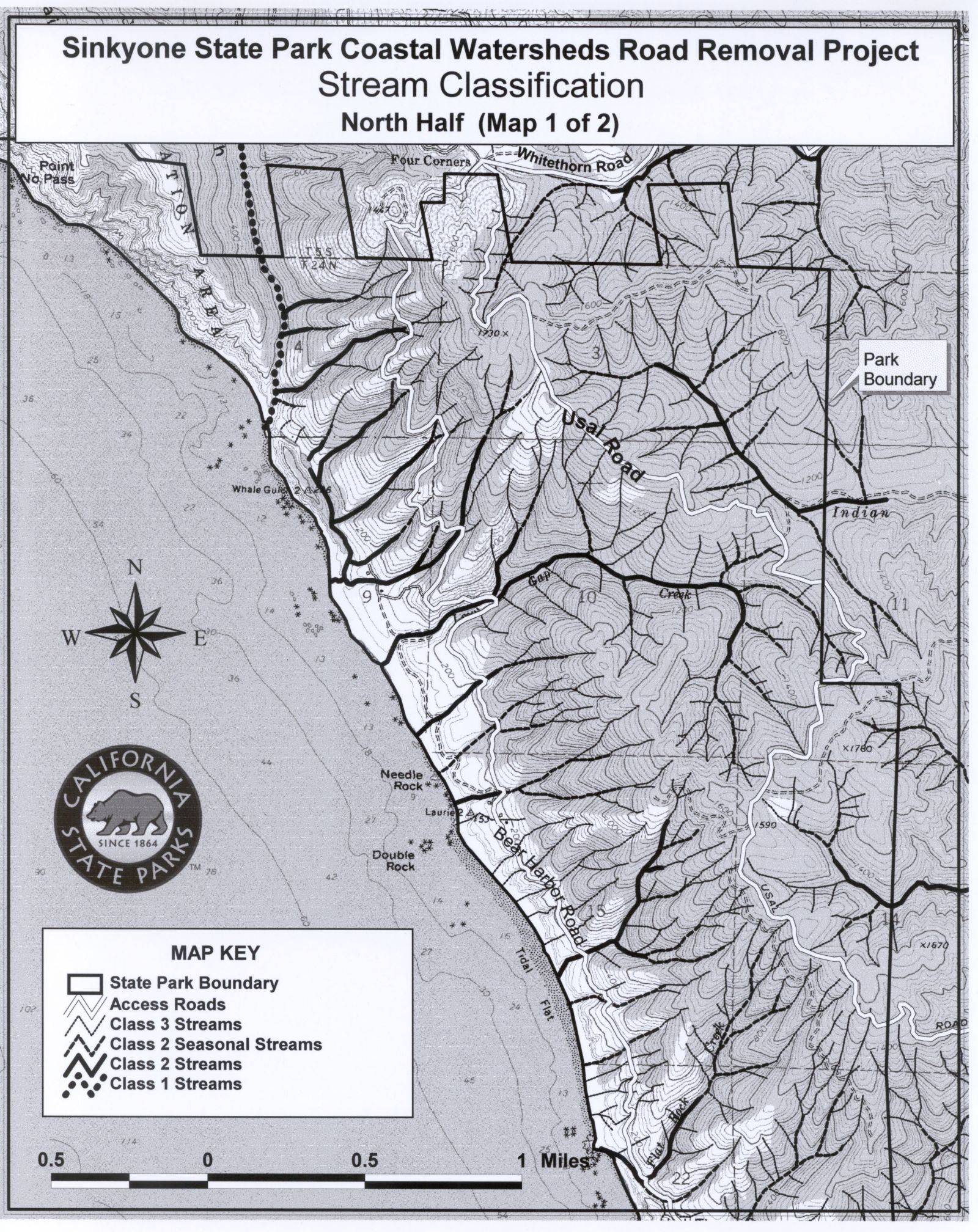
South Half (Map 2 of 2)



Sinkyone State Park Coastal Watersheds Road Removal Project

Stream Classification

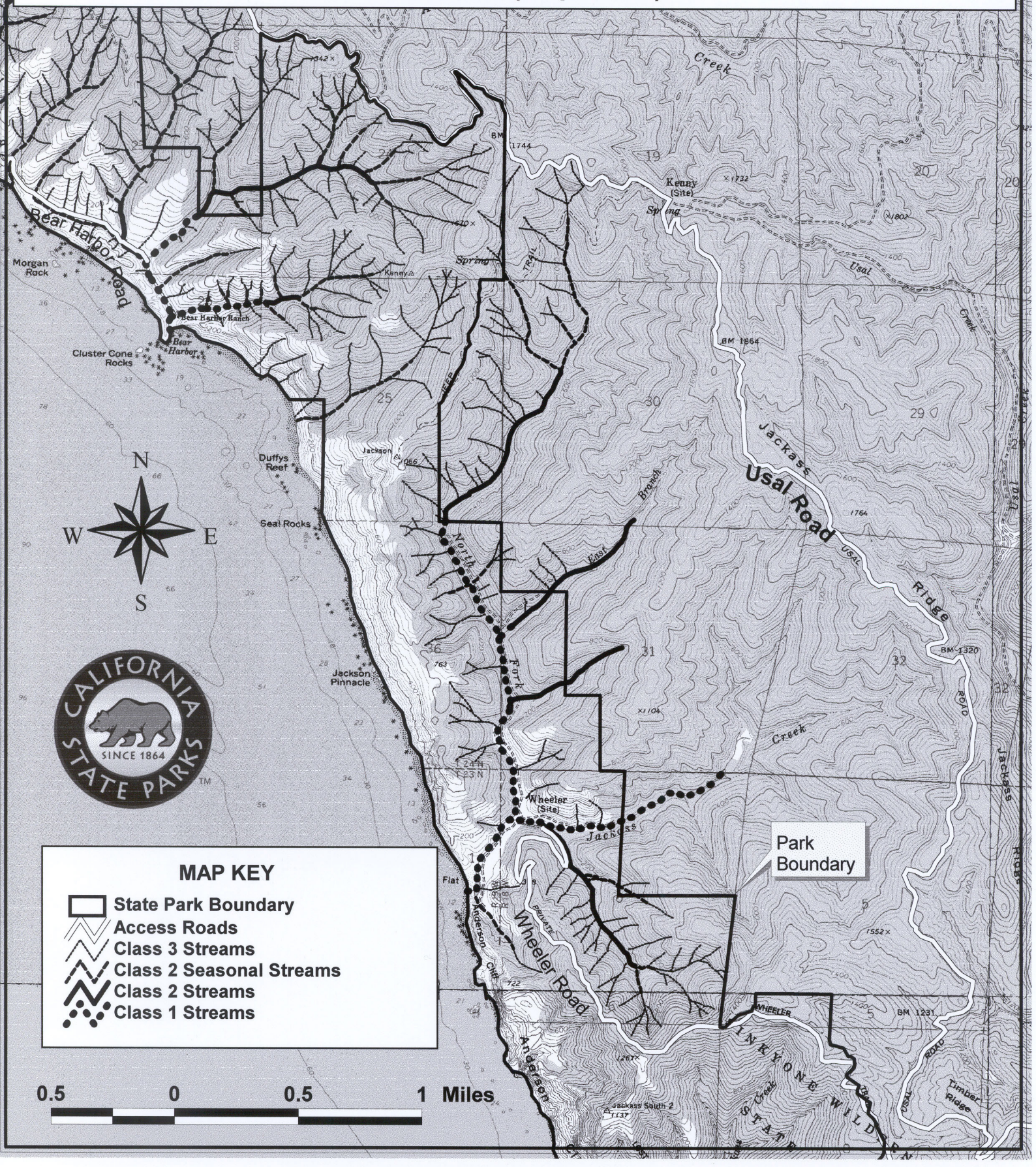
North Half (Map 1 of 2)



Sinkyone State Park Coastal Watersheds Road Removal Project

Stream Classification

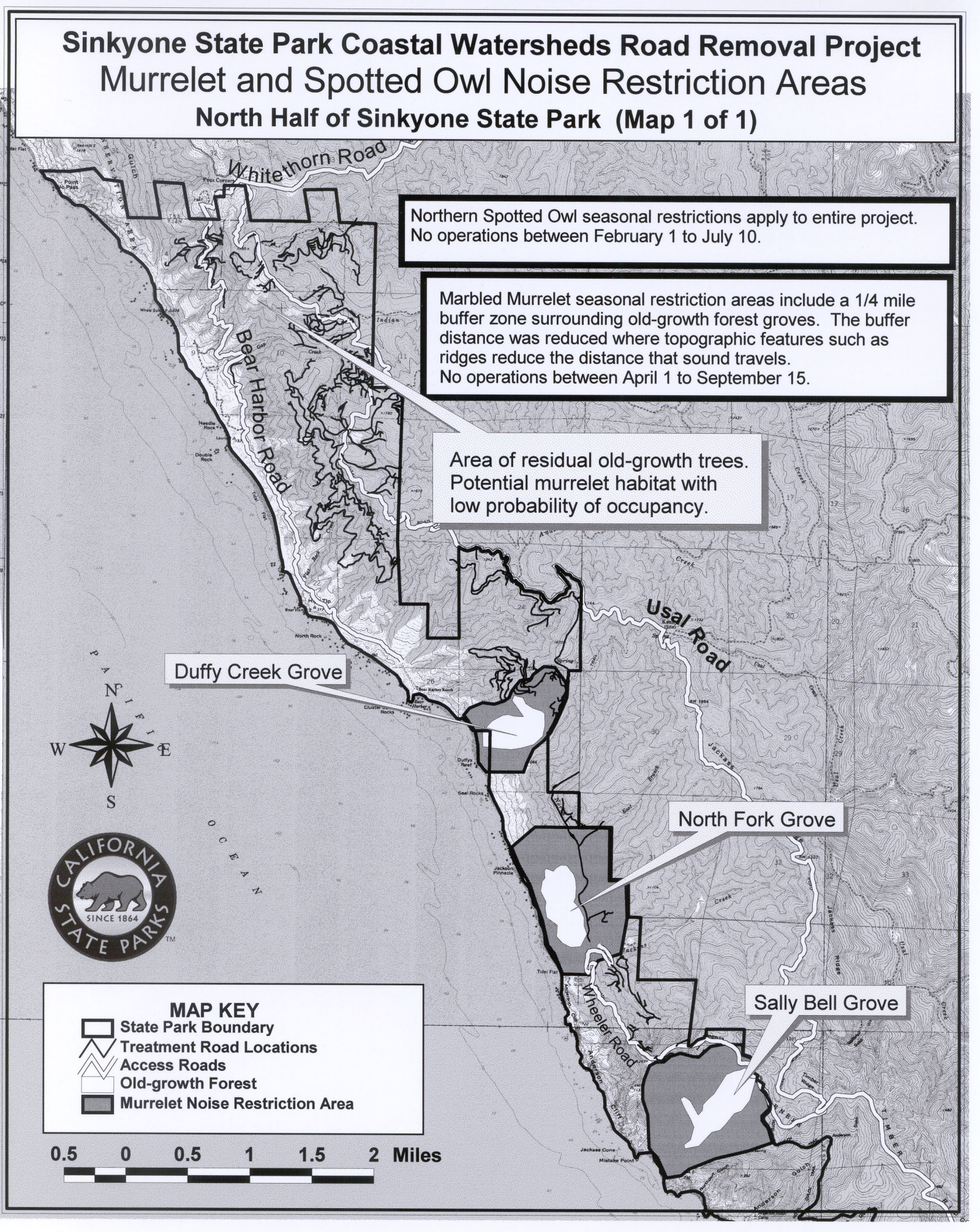
South Half (Map 2 of 2)



Sinkyone State Park Coastal Watersheds Road Removal Project

Murrelet and Spotted Owl Noise Restriction Areas

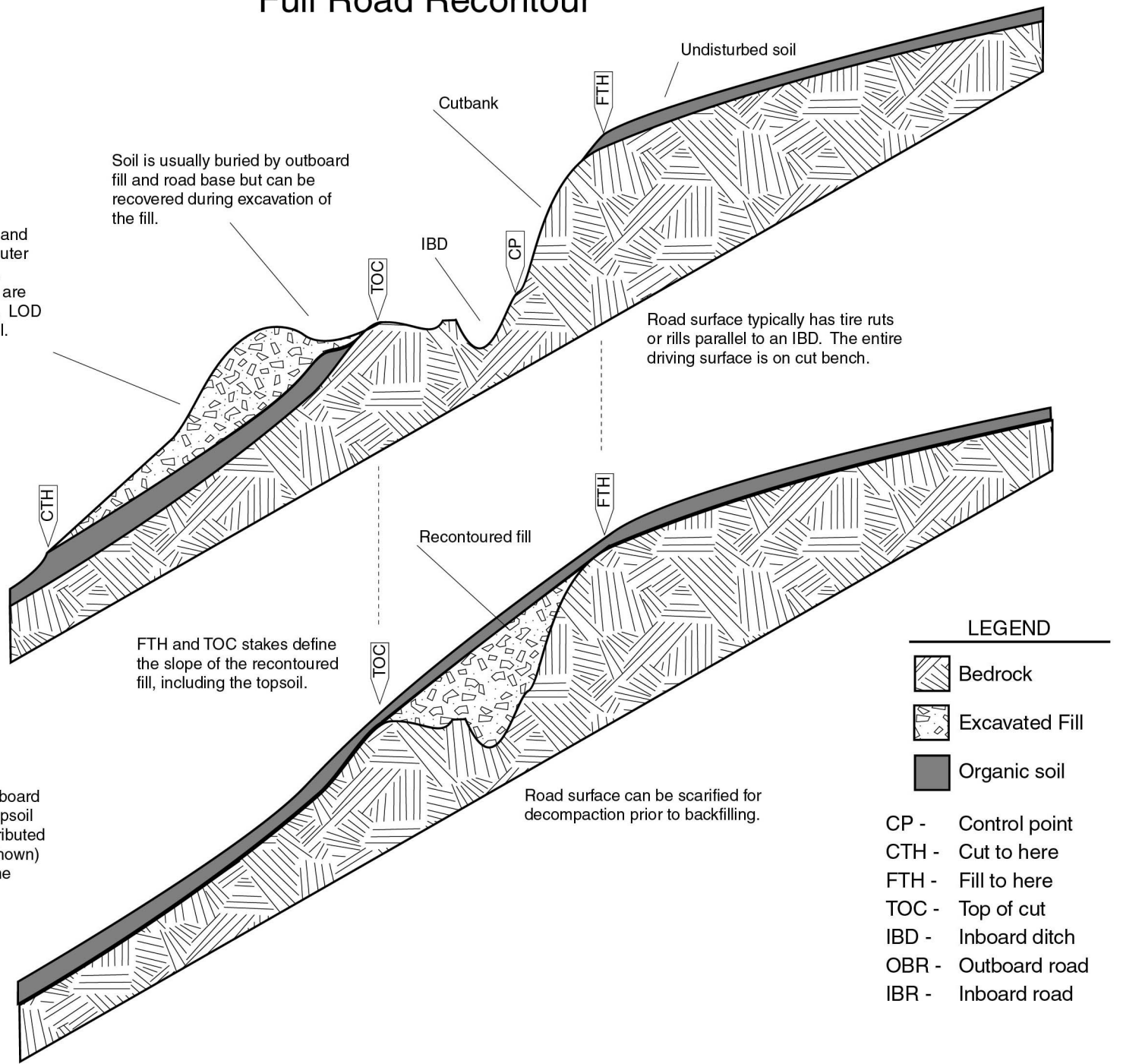
North Half of Sinkyone State Park (Map 1 of 1)



APPENDIX B

PROJECT DESIGN GRAPHICS

Full Road Recontour



Before treatment

Road fill is sidecast over soil layer and steepens slope below road. The outer 1/2 to 1/3 of the road is built on fill. Outboard berms are common and are usually composed of fill and LOD . LOD is present under and throughout fill.

After treatment

Road fill is recovered from the outboard fill and replaced into cut bench. Topsoil is preserved and should be redistributed on finished surfaces. LOD (not shown) should be evenly scattered over the finished work area.

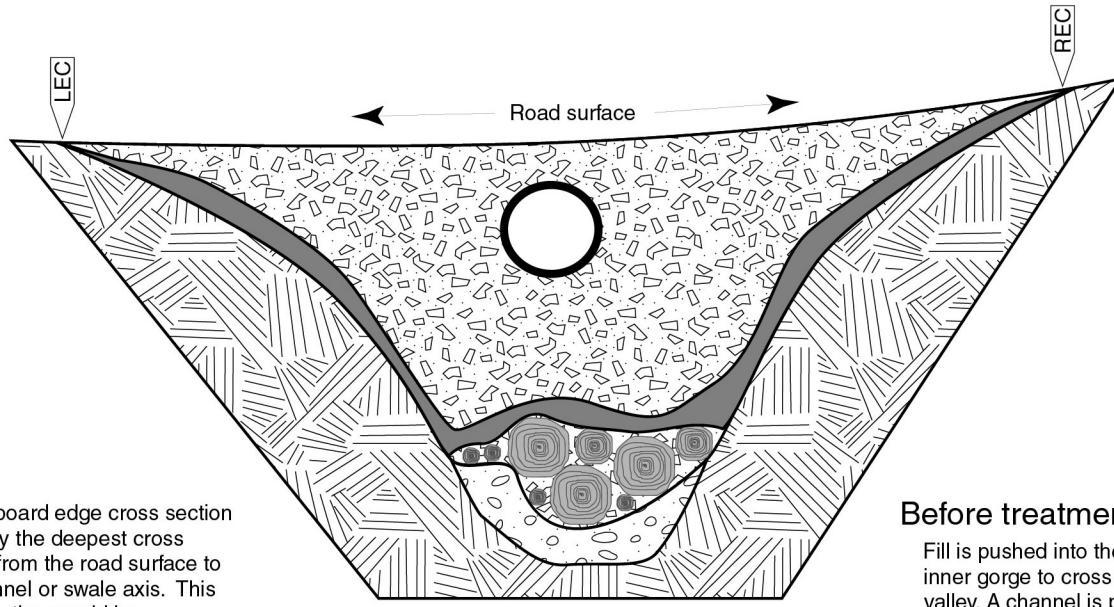
LEGEND

- Bedrock
- Excavated Fill
- Organic soil

CP -	Control point
CTH -	Cut to here
FTH -	Fill to here
TOC -	Top of cut
IBD -	Inboard ditch
OBR -	Outboard road
IBR -	Inboard road

Culvert Stream Crossing Excavation

Cross Section



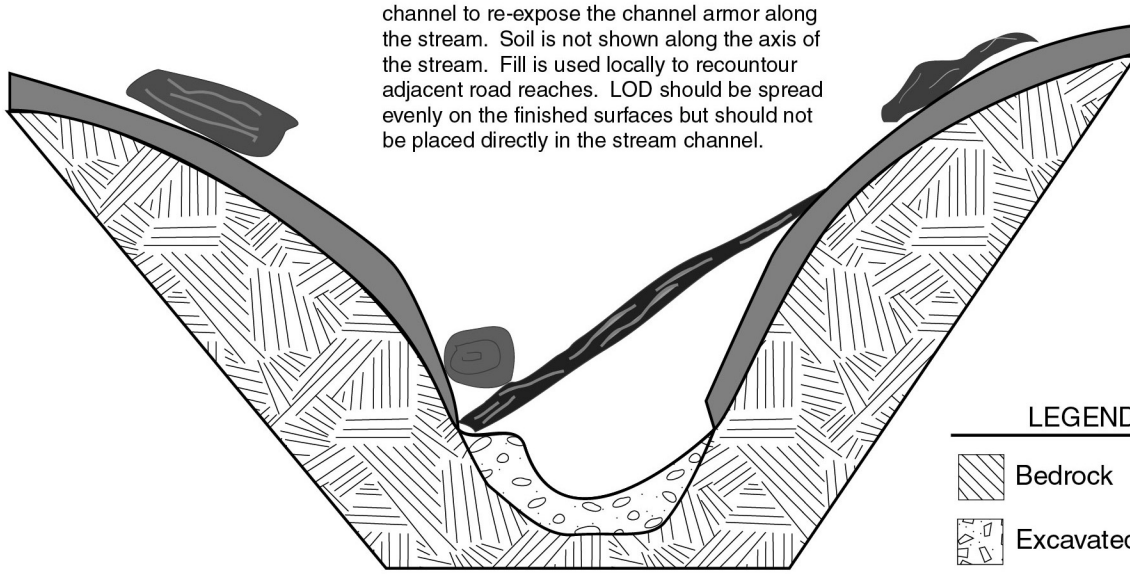
The outboard edge cross section is usually the deepest cross section from the road surface to the channel or swale axis. This cross section would be representative of an outboard edge cross section. This view is looking downstream.

Before treatment

Fill is pushed into the channel and inner gorge to cross the axis of the valley. A channel is present upstream and downstream of the crossing. Logs and culverts are common in these crossings since flow needs to be conveyed under the road. Diversions at these crossings are a serious erosion threats.

After treatment

The fill and culverts are excavated from the channel to re-expose the channel armor along the stream. Soil is not shown along the axis of the stream. Fill is used locally to recountour adjacent road reaches. LOD should be spread evenly on the finished surfaces but should not be placed directly in the stream channel.



LEGEND

- Bedrock
- Excavated Fill
- Organic soil

LEC - Left edge cut
REC - Right edge cut

APPENDIX C

SPECIES LIST
CNDDB RECORD SEARCH

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

RHYACOTRITON VARIEGATUS
SOUTHERN TORRENT (=SEEP) SALAMANDER
Element Code: AAAAJ01020

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4	CDFG Status: SC
State: None	State: S2S3	

Habitat Associations
General: COASTAL REDWOOD, DOUGLAS FIR, MIXED CONIFER, MONTANE RIPARIAN, AND MONTANE HARDWOOD-CONIFER HABITATS. OLD GROWTH FOREST.
Micro: COLD, WELL-SHADED, PERMANENT STREAMS AND SEEPAGES, OR WITHIN SPLASH ZONE OR ON MOSS-COVERED ROCK WITHIN TRICKLING WATER.

Occurrence No. 153 Map Index:40752
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: AMBROSE, J. 1995 (OBS)
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: HEADWATERS OF DUNN CREEK, TRIBUTARY TO COTTANEVA CREEK, 2.75 MILES SW OF HALES GROVE.

Dates Last Seen—
Element: 1995-10-17
Site: 1995-10-17

Lat/Long: 39°47'50" / 123°49'35"
UTM: Zone-10 N4405386 E429237
Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 23N
Range: 18W
Section: 35 Qtr SE
Meridian: M
Elevation: 860 ft

Comments
Distribution:
Ecological: HABITAT CONSISTS OF A SMALL SEEP, DENSELY COVERED BY FERNS; SUBSTRATE MADE UP OF LOOSE GRAVELS AND FINER SOILS. OVERSTORY CONSISTS PRIMARILY OF SECOND-GROWTH DOUGLAS FIR AND REDWOOD, ON A NORTH-FACING SLOPE.
Threat:
General: A MUSEUM SPECIMEN AT UCB WAS COLLECTED IN 1970 AT THIS SITE. 1 FEMALE OBSERVED ON 17 OCT 1995.
Owner/Manager: UNKNOWN

Occurrence No. 154 Map Index:40755
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GRAGG, J. 1996 (OBS)
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: SOLDIER CREEK, 0.7 MILE UPSTREAM FROM THE CONFLUENCE WITH USAL CREEK, EAST OF SINKYONE WILDERNESS STATE PARK.

Dates Last Seen—
Element: 1996-07-30
Site: 1996-07-30

Lat/Long: 39°51'26" / 123°49'28"
UTM: Zone-10 N4412034 E429461
Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 23N
Range: 18W
Section: 11 Qtr SE
Meridian: M
Elevation: 220 ft

Comments
Distribution: SITE CONSISTS OF A BANK SEEP, LOCATED 20 FEET ABOVE SOLDIER CREEK.
Ecological: HABITAT CONSISTS OF REDWOOD-DOMINATED FOREST, WITH SOME DOUGLAS FIR, ON A WEST-FACING SLOPE; CREEK DRAINS TO THE SOUTH. UNDERSTORY CONSISTS MAINLY OF TANOAK, WITH A GROUND COVER OF SWORD FERN, MOSSES, AND SOME HERBS.
Threat:
General: 1 JUVENILE OBSERVED DURING A PRESENCE/ABSENCE SURVEY ON 30 JUL 1996.
Owner/Manager: PVT-GEORGIA PACIFIC CORP

Occurrence No. 155 Map Index:41472
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: KOLLER, S. 1999 (OBS)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SOUTH OF INDIAN CREEK, APPROXIMATELY 2 MILES DOWNSTREAM FROM THE COULBORN CREEK CONFLUENCE, WEST OF SINKYONE WILDERNESS.

Dates Last Seen—
Element: 1999-07-07
Site: 1999-07-07

Lat/Long: 39°56'51" / 123°54'28"
UTM: Zone-10 N4422124 E422431
Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 24N
Range: 18W
Section: 07 Qtr SW
Meridian: M
Elevation: 1080 ft

Comments
Distribution:
Ecological: HABITAT CONSISTS OF A SEEP AT THE BASE OF A TWO-FOOT DOWNCUT, WITHIN A DRY (SEASONAL) STREAM CHANNEL WITH TALUS ROCKS COVERING THE BED OF THE SPLASH ZONE; SEEP/POOL 24CM X 40CM. SURROUNDED BY 40-YR SECOND-GROWTH REDWOOD/DOUGLAS FIR FOREST.
Threat: THREATS INCLUDE TIMBER HARVEST AND HAUL ROAD CONSTRUCTION.
General: 2 ADULTS OBSERVED ON 7 JUL 1999.
Owner/Manager: PVT-J.T. DIMMICK FOREST CO

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

PANDION HALIAETUS
OSPREY
Element Code: ABNKC01010

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CDFG Status: SC
State: None	State: S3	

Habitat Associations
General: (NESTING) OCEAN SHORE, BAYS, FRESH-WATER LAKES, AND LARGER STREAMS.
Micro: LARGE NESTS BUILT IN TREE-TOPS WITHIN 15 MILES OF GOOD FISH-PRODUCING BODY OF WATER.

Occurrence No. 200 Map Index:33529 — Dates Last Seen —
Occ Rank: Unknown — Element: 1996-XX-XX
Origin: Natural/Native occurrence — Site: 1996-XX-XX
Presence: Presumed Extant
Trend: Unknown
Main Source: DEPT. OF FISH & GAME 1996 (PERS)
Quad Summary: GARBERVILLE (4012317/617D)
County Summary: HUMBOLDT
SNA Summary:
Location: WEST SIDE OF THE SOUTH FORK EEL RIVER, BETWEEN RICHARDSON GROVE STATE PARK AND BENBOW LAKE SRA, SOUTH OF GARBERVILLE.

Lat/Long: 40°02'26" / 123°46'54"
UTM: Zone-10 N4432341 E433320
Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 05S
Range: 03E
Section: 12 Qtr NE
Meridian: H
Elevation: 500 ft

Comments
Distribution:
Ecological: NEST TREE IS A LIVE DOUGLAS FIR (SEED TREE); NEST IS A PLATFORM STICK NEST. SITE LACKS PERCH TREES AND SCREENING TREES OF ANY SIGNIFICANCE. NEST SITE IS LOCATED WITHIN 100 FEET OF A TRAVELED ROAD & 200FT NW OF THE BOUNDARY OF A THP.
Threat:
General: ACTIVE NEST SITE IN 1995 AND 1996.
Owner/Manager: UNKNOWN

Occurrence No. 224 Map Index:39166 — Dates Last Seen —
Occ Rank: Excellent — Element: 1998-06-09
Origin: Natural/Native occurrence — Site: 1998-06-09
Presence: Presumed Extant
Trend: Unknown
Main Source: COLEMAN, L. 1997 (OBS)
Quad Summary: GARBERVILLE (4012317/617D)
County Summary: HUMBOLDT
SNA Summary:
Location: WEST SIDE OF BENBOW LAKE, NEAR THE DAM, 2.5 MILES SOUTH OF GARBERVILLE

Lat/Long: 40°03'54" / 123°47'47"
UTM: Zone-10 N4435079 E432059
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 04S
Range: 03E
Section: 36 Qtr SW
Meridian: H
Elevation: 450 ft

Comments
Distribution: NEST IS VISIBLE FROM THE STONE BRIDGE.
Ecological:
Threat:
General: NOT LOCATED DURING A SURVEY IN 1993. ACTIVE IN 1996 AND 1998; INACTIVE IN 1997.
Owner/Manager: DPR-BENBOW LAKE SRA

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

STRIX OCCIDENTALIS CAURINA
NORTHERN SPOTTED OWL
Element Code: ABNSB12011

List Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G3T3	CDFG Status:
State: None	State: S2S3	

Habitat Associations
General: OLD-GROWTH FORESTS OR MIXED STANDS OF OLD-GROWTH & MATURE TREES. OCCASIONALLY IN YOUNGER FORESTS W/PATCHES OF BIG TREES.
Micro: HIGH, MULTISTORY CANOPY DOMINATED BY BIG TREES, MANY TREES W/CAVITIES OR BROKEN TOPS, WOODY DEBRIS & SPACE UNDER CANOPY.

Occurrence No. C73 Map Index:18270 — Dates Last Seen —
Occ Rank: Unknown — Element: 1989-08-21
Origin: Natural/Native occurrence — Site: 1989-08-21
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.
Lat/Long: 39°47'38" / 123°49'45"
UTM: Zone-10 N4404999 E429000
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile
Township: 22N
Range: 18W
Section: 02 Qtr XX
Meridian: M
Elevation: 950 ft

Comments
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD134.
Owner/Manager: UNKNOWN

Occurrence No. C81 Map Index:18278 — Dates Last Seen —
Occ Rank: Unknown — Element: 1989-08-09
Origin: Natural/Native occurrence — Site: 1989-08-09
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.
Lat/Long: 39°49'49" / 123°46'17"
UTM: Zone-10 N4409000 E434000
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile
Township: 23N
Range: 17W
Section: 19 Qtr XX
Meridian: M
Elevation: 1250 ft

Comments
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD098.
Owner/Manager: UNKNOWN

Occurrence No. C94 Map Index:18291 — Dates Last Seen —
Occ Rank: Unknown — Element: 1989-08-03
Origin: Natural/Native occurrence — Site: 1989-08-03
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.
Lat/Long: 39°51'57" / 123°49'48"
UTM: Zone-10 N4413000 E428999
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile
Township: 23N
Range: 18W
Section: 11 Qtr XX
Meridian: M
Elevation: 1000 ft

Comments
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD099.
Owner/Manager: UNKNOWN

STRIX OCCIDENTALIS CAURINA (cont.)
NORTHERN SPOTTED OWL
Element Code: ABNSB12011

List Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G3T3	CDFG Status:
State: None	State: S2S3	

Occurrence No. D03 Map Index:18299 —Dates Last Seen— Lat/Long: 39°53'00" / 123°54'44" Township: 23N
Occ Rank: Unknown Element: 1989-08-17 UTM: Zone-10 N4414999 E422000 Range: 18W
Origin: Natural/Native occurrence Site: 1989-08-17 Precision: NON-SPECIFIC Section: 06 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Radius: 3/5 mile Elevation: 40 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BEAR HARBOR (3912388/601B)*, MISTAKE POINT (3912378/601C)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD038.
Owner/Manager: UNKNOWN

Occurrence No. D04 Map Index:18300 —Dates Last Seen— Lat/Long: 39°53'03" / 123°48'25" Township: 23N
Occ Rank: Unknown Element: 1990-08-09 UTM: Zone-10 N4415000 E430999 Range: 18W
Origin: Natural/Native occurrence Site: 1990-08-09 Precision: NON-SPECIFIC Section: 01 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Radius: 3/5 mile Elevation: 1300 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: PIERCY (3912387/601A)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD096.
Owner/Manager: UNKNOWN

Occurrence No. D08 Map Index:18304 —Dates Last Seen— Lat/Long: 39°53'37" / 123°44'55" Township: 24N
Occ Rank: Unknown Element: 1990-07-20 UTM: Zone-10 N4415999 E436000 Range: 17W
Origin: Natural/Native occurrence Site: 1990-07-20 Precision: NON-SPECIFIC Section: 28 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Radius: 3/5 mile Elevation: 850 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: NOBLE BUTTE (3912386/600B)*, PIERCY (3912387/601A)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD105.
Owner/Manager: UNKNOWN

STRIX OCCIDENTALIS CAURINA (cont.)
NORTHERN SPOTTED OWL
Element Code: ABNSB12011

List Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G3T3	CDFG Status:
State: None	State: S2S3	

Occurrence No. D23 Map Index:18319
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.

—Dates Last Seen—
Element: 1989-07-12
Site: 1989-07-12

Lat/Long: 39°55'42" / 123°56'10"
UTM: Zone-10 N4419999 E419999
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile

Township: 24N
Range: 19W
Section: 23 Qtr XX
Meridian: M
Elevation: 350 ft

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD139.
Owner/Manager: UNKNOWN

Occurrence No. D24 Map Index:18320
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.

—Dates Last Seen—
Element: 1989-08-17
Site: 1989-08-17

Lat/Long: 39°55'43" / 123°54'04"
UTM: Zone-10 N4419999 E422999
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile

Township: 24N
Range: 18W
Section: 19 Qtr XX
Meridian: M
Elevation: 1150 ft

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD135.
Owner/Manager: UNKNOWN

Occurrence No. D31 Map Index:18327
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.

—Dates Last Seen—
Element: 1989-07-13
Site: 1989-07-13

Lat/Long: 39°56'47" / 123°55'29"
UTM: Zone-10 N4422000 E421000
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile

Township: 24N
Range: 19W
Section: 13 Qtr XX
Meridian: M
Elevation: 1750 ft

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD140.
Owner/Manager: UNKNOWN

STRIX OCCIDENTALIS CAURINA (cont.)
NORTHERN SPOTTED OWL
Element Code: ABNSB12011

List Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G3T3	CDFG Status:
State: None	State: S2S3	

Occurrence No. D32 Map Index:18328 —Dates Last Seen— Lat/Long: 39°56'49" / 123°50'34" Township: 24N
Occ Rank: Unknown Element: 1989-07-06 UTM: Zone-10 N4422000 E427999 Range: 18W
Origin: Natural/Native occurrence Site: 1989-07-06 Precision: NON-SPECIFIC Section: 10 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Radius: 3/5 mile Elevation: 1200 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: PIERCY (3912387/601A)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.
—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD095.
Owner/Manager: UNKNOWN

Occurrence No. D48 Map Index:18344 —Dates Last Seen— Lat/Long: 39°59'29" / 123°56'13" Township: 05S
Occ Rank: Unknown Element: 1988-XX-XX UTM: Zone-10 N4427000 E420000 Range: 02E
Origin: Natural/Native occurrence Site: 1988-XX-XX Precision: NON-SPECIFIC Section: 27 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Radius: 3/5 mile Elevation: 1300 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BEAR HARBOR (3912388/601B)*, BRICELAND (4012318/617C)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.
—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD054.
Owner/Manager: UNKNOWN

Occurrence No. D49 Map Index:18345 —Dates Last Seen— Lat/Long: 39°59'30" / 123°54'07" Township: 05S
Occ Rank: Unknown Element: 1990-09-02 UTM: Zone-10 N4427000 E423000 Range: 02E
Origin: Natural/Native occurrence Site: 1990-09-02 Precision: NON-SPECIFIC Section: 25 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Radius: 3/5 mile Elevation: 1250 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BEAR HARBOR (3912388/601B)*, BRICELAND (4012318/617C)
County Summary: MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.
—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = MD172.
Owner/Manager: UNKNOWN

STRIX OCCIDENTALIS CAURINA (cont.)
NORTHERN SPOTTED OWL
Element Code: ABNSB12011

List Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G3T3	CDFG Status:
State: None	State: S2S3	

Occurrence No. D53 Map Index:18349 —Dates Last Seen— Lat/Long: 40°00'02" / 123°54'50" Township: 05S
Occ Rank: Unknown Element: 1989-04-03 UTM: Zone-10 N4428000 E422000 Range: 02E
Origin: Natural/Native occurrence Site: 1989-04-03 Precision: NON-SPECIFIC Section: 23 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: H
Trend: Unknown Radius: 3/5 mile Elevation: 1500 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BRICELAND (4012318/617C)*, BEAR HARBOR (3912388/601B)
County Summary: HUMBOLDT, MENDOCINO
SNA Summary:
Location: SEE LIST OF QUADS.
——Comments——
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF NEST & YOUNG.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = HU180, MD100.
Owner/Manager: UNKNOWN

Occurrence No. D61 Map Index:18357 —Dates Last Seen— Lat/Long: 40°01'42" / 123°47'49" Township: 05S
Occ Rank: Unknown Element: 1990-08-XX UTM: Zone-10 N4430999 E432000 Range: 03E
Origin: Natural/Native occurrence Site: 1990-08-XX Precision: NON-SPECIFIC Section: 11 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: H
Trend: Unknown Radius: 3/5 mile Elevation: 750 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: GARBERVILLE (4012317/617D)
County Summary: HUMBOLDT
SNA Summary:
Location: SEE LIST OF QUADS.
——Comments——
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF PAIR.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = HU012.
Owner/Manager: UNKNOWN

Occurrence No. D68 Map Index:18364 —Dates Last Seen— Lat/Long: 40°03'50" / 123°52'46" Township: 04S
Occ Rank: Unknown Element: 1990-09-04 UTM: Zone-10 N4435000 E424999 Range: 03E
Origin: Natural/Native occurrence Site: 1990-09-04 Precision: NON-SPECIFIC Section: 31 Qtr XX
Presence: Presumed Extant Symbol Type: POINT Meridian: H
Trend: Unknown Radius: 3/5 mile Elevation: 1300 ft
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BRICELAND (4012318/617C)*, GARBERVILLE (4012317/617D)
County Summary: HUMBOLDT
SNA Summary:
Location: SEE LIST OF QUADS.
——Comments——
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = HU282.
Owner/Manager: UNKNOWN

STRIX OCCIDENTALIS CAURINA (cont.)
NORTHERN SPOTTED OWL
Element Code: ABNSB12011

List Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G3T3	CDFG Status:
State: None	State: S2S3	

Occurrence No. D71 Map Index:18367
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: SHELTER COVE (4012411/618D)
County Summary: HUMBOLDT
SNA Summary:
Location: SEE LIST OF QUADS.

—Dates Last Seen—
Element: 1989-04-30
Site: 1989-04-30

Lat/Long: 40°04'17" / 124°03'20"
UTM: Zone-10 N4436000 E410000
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile

Township: 04S
Range: 01E
Section: 34 Qtr XX
Meridian: H
Elevation: 1400 ft

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF NEST.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = HU149.
Owner/Manager: UNKNOWN

Occurrence No. D72 Map Index:18368
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: BRICELAND (4012318/617C)
County Summary: HUMBOLDT
SNA Summary:
Location: SEE LIST OF QUADS.

—Dates Last Seen—
Element: 1983-09-17
Site: 1983-09-17

Lat/Long: 40°04'19" / 123°58'24"
UTM: Zone-10 N4435999 E417000
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile

Township: 04S
Range: 02E
Section: 32 Qtr XX
Meridian: H
Elevation: 1100 ft

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = HU133.
Owner/Manager: UNKNOWN

Occurrence No. D81 Map Index:18377
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: SHELTER COVE (4012411/618D)
County Summary: HUMBOLDT
SNA Summary:
Location: SEE LIST OF QUADS.

—Dates Last Seen—
Element: 1989-06-28
Site: 1989-06-28

Lat/Long: 40°05'22" / 124°01'56"
UTM: Zone-10 N4437999 E412000
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile

Township: 04S
Range: 01E
Section: 26 Qtr XX
Meridian: H
Elevation: 1400 ft

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF NEST.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = HU150.
Owner/Manager: UNKNOWN

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

STRIX OCCIDENTALIS CAURINA (cont.)
NORTHERN SPOTTED OWL
Element Code: ABNSB12011

List Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G3T3	CDFG Status:
State: None	State: S2S3	

Occurrence No. D83 Map Index:18379
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1991 CDFG SPOTTED OWL DATABASE
Quad Summary: SHELTER COVE (4012411/618D)
County Summary: HUMBOLDT
SNA Summary:
Location: SEE LIST OF QUADS.

—Dates Last Seen—
Element: 1988-05-18
Site: 1988-05-18

Lat/Long: 40°05'55" / 124°01'14"
UTM: Zone-10 N4439000 E413000
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 3/5 mile

Township: 04S
Range: 01E
Section: 24 Qtr XX
Meridian: H
Elevation: 1600 ft

—Comments—
Distribution:
Ecological: NESTING TERRITORIES BASE ON OBSERVATION OF INDIVIDUAL.
Threat: TIMBER HARVEST.
General: NESTING TERRITORY NUMBER(S) = HU153.
Owner/Manager: UNKNOWN

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

ONCORHYNCHUS KISUTCH
COHO SALMON - CENTRAL CALIFORNIA ESU
Element Code: AFCHA02030

List Status	NDDB Element Ranks	Other Lists
Federal: Threatened	Global: G5	CDFG Status:
State: Endangered	State: S2?	

Habitat Associations
General: FEDERAL LISTING = POPS BETWEEN PUNTA GORDA & SAN LORENZO RIVER. STATE LISTING = POPS SOUTH OF SAN FRANCISCO BAY ONLY
Micro: REQUIRE BEDS OF LOOSE, SILT-FREE, COARSE GRAVEL FOR SPAWNING. ALSO NEED COVER, COOL WATER & SUFFICIENT DISSOLVED OXYGEN.

Occurrence No. 5 Map Index:32681 — Dates Last Seen —
Occ Rank: Unknown — Element: 1994-08-18
Origin: Natural/Native occurrence — Site: 1994-08-18
Presence: Presumed Extant
Trend: Unknown
Main Source: HARVEY, B. 1994 (OBS)
Quad Summary: BRICELAND (4012318/617C)
County Summary: HUMBOLDT
SNA Summary:
Location: 5.5 MILES NW OF WHITEHORN, EUBANKS CREEK, 100 TO 250 METERS UPSTREAM OF CONFLUENCE WITH MATTOLE RIVER, HUMBOLDT COUNTY.

Lat/Long: 40°05'09" / 123°59'51"
UTM: Zone-10 N4437550 E414953
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 21.0 ac

Township: 04S
Range: 02E
Section: 30 Qtr NW
Meridian: H
Elevation: 730 ft

Comments
Distribution: 4 POOLS SAMPLED IN THE LOWER PORTION OF THE EUBANKS CREEK.
Ecological: WATER TEMP WAS 20.0 C AT 1200 ON 8/18/94.
Threat:
General: 4 POOLS SAMPLED 1 COHO (72 MM FL & 4.3 G) FOUND. UPPER EUBANKS CREEK SAMPLED BUT NO COHO WERE FOUND. MATTOLE RIVER IS THE MIGRATION CORRIDOR, NOT A GOOD NURSERY STREAM FOR LACK OF COVER & HIGH WATER TEMPERATURES. STEELHEAD ALSO FOUND HERE.
Owner/Manager: UNKNOWN

Occurrence No. 6 Map Index:32680 — Dates Last Seen —
Occ Rank: Unknown — Element: 1994-09-20
Origin: Natural/Native occurrence — Site: 1994-09-20
Presence: Presumed Extant
Trend: Unknown
Main Source: HARVEY, B 1994 (OBS)
Quad Summary: SHELTER COVE (4012411/618D)*, BRICELAND (4012318/617C)
County Summary: HUMBOLDT
SNA Summary:
Location: BIG FINLEY CREEK, APPROXIMATELY 5.5 MILES NORTHEAST OF SHELTER COVE, HUMBOLDT COUNTY

Lat/Long: 40°05'20" / 124°00'08"
UTM: Zone-10 N4437907 E414548
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 27.4 ac

Township: 04S
Range: 02E
Section: 30 Qtr NW
Meridian: H
Elevation: 760 ft

Comments
Distribution: POOLS IN LOWER SECTION OF BIG FINLEY CREEK.
Ecological: WATER TEMP WAS 16.7 C AT 1200 ON 9/20/94.
Threat:
General: 8 POOLS SAMPLED FROM 35 TO 280 METERS ABOVE THE CONFLUENCE WITH THE MATTOLE RIVER, 3 COHO OBSERVED (72 - 75 MM FL & 3.76 - 4.66 G). STEELHEAD ALSO FOUND HERE.
Owner/Manager: UNKNOWN

Occurrence No. 7 Map Index:32682 — Dates Last Seen —
Occ Rank: Unknown — Element: 1994-10-04
Origin: Natural/Native occurrence — Site: 1994-10-04
Presence: Presumed Extant
Trend: Unknown
Main Source: HARVEY, B. 1994 (OBS)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: YEW CREEK OFF THE MATTOLE RIVER, APPROXIMATELY 2 MILES SOUTH SOUTH EAST OF WHITEHORN, MENDOCINO COUNTY.

Lat/Long: 39°59'32" / 123°55'10"
UTM: Zone-10 N4427075 E421496
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 28.3 ac

Township: 05S
Range: 02E
Section: 26 Qtr XX
Meridian: H
Elevation: 1080 ft

Comments
Distribution: COHO FOUND ONLY IN THE 2 DOWNSTREAM-MOST POOLS.
Ecological: INTERMITTENT CREEK. WATER TEMP WAS 15.0 C AT 1200 ON 9/6/94 AND 11.5 C AT 1030 ON 10/4/94.
Threat:
General: 19 POOLS AND 3 RIFFLES WERE SAMPLED. ON SEPT 6 1994, 16 COHO SEEN. ON OCT 4 1994, 13 COHO SEEN. COHO CAUGHT IN THE 2 DOWNSTREAM-MOST POOLS. MEAN FL RANGED FROM 63 - 71 MM. STEELHEAD ALSO FOUND HERE.
Owner/Manager: UNKNOWN

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

ONCORHYNCHUS MYKISS IRIDEUS
SUMMER-RUN STEELHEAD TROUT
Element Code: AFCHA02092

List Status	NDDB Element Ranks	Other Lists
Federal: Candidate	Global: G5T2	CDFG Status: SC
State: None	State: S2	

Habitat Associations

General: NO. CALIF COASTAL STREAMS SOUTH TO MIDDLE FORK EEL RIVER. WITHIN RANGE OF KLAMATH MTNS PROVINCE ESU & NO. CALIF ESU.
Micro: COOL, SWIFT, SHALLOW WATER & CLEAN LOOSE GRAVEL FOR SPAWNING, & SUITABLY LARGE POOLS IN WHICH TO SPEND THE SUMMER.

Occurrence No. 20 Map Index:44383
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Increasing
Main Source: CALIFORNIA TROUT 1999 (LIT)

Dates Last Seen—
Element: 2000-08-07
Site: 2000-08-07

Lat/Long: 40°13'44" / 124°03'33"
UTM: Zone-10 N4453513 E409875
Precision: NON-SPECIFIC
Symbol Type: POLYGON
Area: 4,688.7 ac

Township: 03S
Range: 01E
Section: 10 Qtr XX
Meridian: H
Elevation: 550 ft

Quad Summary: HONEYDEW (4012421/618A)*, BEAR HARBOR (3912388/601B), BRICELAND (4012318/617C), ETTERSBURG (4012328/617B), SHELTER COVE (4012411/618D), SHUBRICK PEAK (4012422/618B), BUCKEYE MTN. (4012432/636C), PETROLIA (4012433/637D)
County Summary: HUMBOLDT, MENDOCINO
SNA Summary:
Location: MATTOLE RIVER, MOUTH TO ~1 MILE EAST OF FOUR CORNERS, ALSO SOME OF THOMPSON, BEAR, AND HONEYDEW CREEKS

Comments

Distribution: 16 SURVEY SITES ALONG RIVER, MAPPED AS CONTINOUS SINCE SECTIONS COVER LARGE PORTION OF RIVER. UNABLE TO FIND PARTS OF SAMPLE LOCATIONS. OBS YELLOW-LEGGED FROGS. COHO & CHINOOK OBS IN UPPER PART OF DRAINAGE, WESTERN POND TURTLES THROUGHOUT
Ecological: COLD WATER REFUGIA APPEARS TO BE VERY IMPORTANT TO BOTH ADULT AND JUVENILE SALMONIDS DURING THE SUMMER. WATER TEMPS TAKEN YEARLY.
Threat: POACHING, HIGH STREAM TEMPERATURES, RIPARIAN VEGETATION LOSS, FISHING, WATER DIVERSIONS, GARBAGE
General: 1982: ONLY 3 ADULTS OBS IN 63 MILES. 1996: 12 ADULTS & 34 HALF-PLUNDERS (LSB) OBS. 1997: 16 ADULTS & 19 HALF-(LBS) OBS. 1998: OBS 44 ADULTS & 85 HALF-LBS. 1999: OBS 16 ADULTS & 88 HALF-LBS. 2000: OBS 17 ADULTS & 126 HALF-LBS.
Owner/Manager: UNKNOWN

ARBORIMUS POMO
RED TREE VOLE
Element Code: AMAFF10030

List Status: Federal: None; State: None
NDDB Element Ranks: Global: G3; State: S3
Other Lists: CDFG Status: SC

Habitat Associations
General: NORTH COAST FOG BELT FROM OREGON BORDER TO SOMONA CO. IN DOUGLAS FIR, REDWOOD & MONTANE HARDWOOD-CONIFER FORESTS.
Micro: FEEDS ALMOST EXCLUSIVELY ON DOUGLAS FIR NEEDLES. WILL OCCASIONALY TAKE NEEDLES OF GRAND FIR, HEMLOCK OR SPRUCE.

Occurrence No. 35 Map Index:34743
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HILBURN, L. 1994 (OBS)
Quad Summary: BRICELAND (4012318/617C)
County Summary: HUMBOLDT
SNA Summary:
Location: BETWEEN GIBSON RIDGE, BAKER CREEK, MATTOLE RIVER AND HARRIS CREEK; IMMEDIATELY NORTHEAST OF WHITETHORN.

Dates Last Seen — Element: 1994-XX-XX; Site: 1994-XX-XX
Lat/Long: 40°01'45" / 123°55'07"
UTM: Zone-10 N4431179 E421625
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 424.5 ac
Township: 05S
Range: 02E
Section: XX Qtr XX
Meridian: H
Elevation: 1300 ft

Comments
Distribution: INFORMATION TAKEN FROM THP 1-94-026H.
Ecological: HABITAT CONSISTS OF WATERCOURSE CHANNELS AMONG DOUGLAS-FIR AND TANOAKS; SOIL SERIES ARE HUGO AND JOSEPHINE AND ARE LOAM; AREA WITHIN COASTAL INFLUENCE ZONE WITH FOG AND HIGH PRECIPITATION.
Threat: POSSIBLE THREAT: TIMBER HARVESTING.
General: SEVERAL NESTS AND RESIN DUCTS FOUND IN BOTH DOUGLAS-FIR AND TANOAK SAPLINGS (DIA. BETWEEN 4-12 INCHES DBH); POSITIVE ID OF NESTS MADE BY SIGHTING OF VOLE OR FROM RESIN DUCTS.
Owner/Manager: PVT-BARNUM TIMBER COMPANY

Occurrence No. 36 Map Index:34744
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HILBURN, L. 1994 (OBS)
Quad Summary: BRICELAND (4012318/617C)*, BEAR HARBOR (3912388/601B)
County Summary: HUMBOLDT, MENDOCINO
SNA Summary:
Location: BETWEEN SEBBAS CREEK AND MATTOLE RIVER; 4.3 KM SOUTHEAST OF WHITETHORN.

Dates Last Seen — Element: 1994-07-15; Site: 1994-07-15
Lat/Long: 39°59'58" / 123°53'58"
UTM: Zone-10 N4427867 E423226
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 120.8 ac
Township: 05S
Range: 02E
Section: XX Qtr XX
Meridian: H
Elevation: 1400 ft

Comments
Distribution: INFORMATION TAKEN FROM THP 1-94-443M/H.
Ecological: HABITAT CONSISTS OF TANOAK AND OTHER HARDWOODS WITHIN WATERCOURSE AREAS.
Threat: POSSIBLE THREAT: TIMBER HARVESTING.
General: RED TREE VOLE NESTS WERE OBSERVED WITHIN THE THP AREA; NEST TREES WILL BE FLAGGED FOR PROTECTION AND NOT HARVESTED. AT LEAST 4 NESTS WERE OBSERVED IN 1994 BY WOOSTER AND URDAHL IN THE MATTOLE RIVER AND SEBBAS CREEK AREAS.
Owner/Manager: PVT-FALK TREE FARM TRUST,OTHER

Occurrence No. 79 Map Index:41113
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1998 (PERS)
Quad Summary: SHELTER COVE (4012411/618D)
County Summary: HUMBOLDT
SNA Summary:
Location: HORSE MOUNTAIN.

Dates Last Seen — Element: 1995-05-16; Site: 1995-05-16
Lat/Long: 40°04'48" / 124°04'44"
UTM: Zone-10 N4436994 E408000
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/10 mile
Township: 04S
Range: 01E
Section: 28 Qtr SW
Meridian: H
Elevation: 700 ft

Comments
Distribution: COORDINATES GIVEN: T4S, R1E, NE 1/4 OF THE SW 1/4 OF THE SW 1/4 OF SECTION 28.
Ecological:
Threat:
General: 1 NEST OBERVED BY S. HAWKS, 1995.
Owner/Manager: UNKNOWN

ARBORIMUS POMO (cont.)
RED TREE VOLE
Element Code: AMAFF10030

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CDFG Status: SC
State: None	State: S3	

Occurrence No. 86 Map Index:41129
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1998 (PERS)
Quad Summary: BRICELAND (4012318/617C)
County Summary: HUMBOLDT
SNA Summary:
Location: MATTOLE RIVER (1.5 MILES SOUTHEAST OF WHITEHORN, JUST NORTH OF THE COUNTY LINE).

—Dates Last Seen—
Element: 1988-06-30
Site: 1988-06-30

Lat/Long: 40°00'11" / 123°55'09"
UTM: Zone-10 N4428320 E421531
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 27.1 ac

Township: 05S
Range: 02E
Section: 23 Qtr SW
Meridian: H
Elevation: 1300 ft

—Comments—
Distribution: COORDINATES GIVEN: 5S, 2E, SW 1/4 OF SECTION 23; FIVE POINTS IN THIS SECTION.
Ecological:
Threat:
General: 5 NESTS OBSERVED BY ELLIOTT, 1988.
Owner/Manager: UNKNOWN

Occurrence No. 88 Map Index:41136
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1998 (PERS)
Quad Summary: PIERCY (3912387/601A)
County Summary: MENDOCINO
SNA Summary:
Location: MCCOY CREEK SITE (1.5 MILES EAST OF REYNOLDS STATE WAYSIDE CAMPGROUND AT THE SOUTH FORK EEL RIVER AND HIGHWAY 101)

—Dates Last Seen—
Element: 1995-06-10
Site: 1995-06-10

Lat/Long: 39°56'49" / 123°45'15"
UTM: Zone-10 N4421957 E435549
Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 24N
Range: 17W
Section: 08 Qtr XX
Meridian: M
Elevation: 1900 ft

—Comments—
Distribution: COORDINATES GIVEN: T24N, R17W, THE EAST CENTER OF THE NE 1/4 OF THE NE 1/4 OF SECTION 8.
Ecological:
Threat:
General: 2 NESTS OBSERVED BY SUSAN 10-JUN-1995.
Owner/Manager: UNKNOWN

Occurrence No. 90 Map Index:41138
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: GOULD, G. 1998 (PERS)
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: NORTH FORK USAL CREEK (JUST SOUTH OF CONFLUENCE WITH SOLDIER CREEK)

—Dates Last Seen—
Element: 1994-01-28
Site: 1994-01-28

Lat/Long: 39°50'53" / 123°49'45"
UTM: Zone-10 N4411018 E429049
Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 23N
Range: 18W
Section: 14 Qtr SE
Meridian: M
Elevation: 40 ft

—Comments—
Distribution: COORDINATES GIVEN: 23N, 18W, THE NW 1/4 OF THE NW 1/4 OF THE SE 1/4 OF SECTION 14.
Ecological:
Threat:
General: 1 NEST OBSERVED BY WOOSTER, 28-JAN-1994.
Owner/Manager: UNKNOWN

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

USNEA LONGISSIMA
LONG-BEARD LICHEN
Element Code: NLLEC5P420

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List:
State: None	State: S2.1	R-E-D Code:

Habitat Associations
General: NORTH COAST CONIFEROUS FOREST, BROADLEAFED UPLAND FOREST.
Micro: GROWS IN THE "REDWOOD ZONE" ON A VARIETY OF TREES INCL BIG LEAF MAPLE, OAKS, ASH, DOUG FIR, AND BAY. 0-2000' IN CALIF.

Occurrence No. 13 Map Index:45331
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: WRIGHT, D. 2000 (PERS)
Quad Summary: BEAR HARBOR (3912388/601B)*, HALES GROVE (3912377/601D), MISTAKE POINT (3912378/601C), PIERCY (3912387/601A)
County Summary: MENDOCINO
SNA Summary:
Location: USAL ROAD, HALFWAY FROM HWY 1 TO BRICELAND ROAD.

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Lat/Long: 39°52'44" / 123°52'50"
UTM: Zone-10 N4414498 E424689
Precision: NON-SPECIFIC
Symbol Type: POLYGON
Area: 256.4 ac

Township: 23N
Range: 18W
Section: 05 Qtr E
Meridian: M
Elevation: 1440 ft

Comments
Distribution: EXACT LOCATION UNKNOWN, MAPPED AS BEST GUESS ON USAL RD HALFWAY BETWEEN HWY 1 AND BRICELAND RD BY CNDDB.
Ecological:
Threat:
General: NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

ASTRAGALUS AGNICIDUS
HUMBOLDT MILK-VETCH
Element Code: PDFAB0F080

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G1	CNPS List: 1B
State: Endangered	State: S1.1	R-E-D Code: 3-3-3

Habitat Associations
General: BROADLEAFED UPLAND FOREST. ONLY KNOWN FROM ONE AREA IN HUMBOLDT COUNTY.
Micro: DISTURBED OPENINGS IN PARTIALLY TIMBERED FOREST LANDS. 575-750M.

Occurrence No. 9 Map Index:47828 —Dates Last Seen— Lat/Long: 39°44'55" / 123°46'22" Township: 22N
Occ Rank: Fair Element: 2001-06-01 UTM: Zone-10 N4399933 E433781 Range: 17W
Origin: Natural/Native occurrence Site: 2001-06-01 Precision: SPECIFIC Section: 20 Qtr N
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Area: 3.1 ac Elevation: 1200 ft
Main Source: MEESE, D. 2001 (OBS)
Quad Summary: WESTPORT (3912367/585A)*, HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: NORTH OF UPPER SOUTH FORK COTTONWOOD CREEK, 2.5 AIRMILES ENE OF ROCKPORT, NNE OF WESTPORT.

Comments
Distribution: 5 COLONIES MAPPED AS 2 POLYGONS BY CNDDB. ON ROCKED ROAD, ROADSIDES, AND AN OLD BURN PILE. MAPPED AT THE CENTER OF THE N 1/2 OF SECTION 20.
Ecological: ON ROAD AND ROADSIDES. ASSOCIATES INCLUDE CEANOTHUS THRYSIFLORUS, PHACELIA BOLANDERI, MIMULUS AURANTIACUS, AND ARBUTUS MENZIESII.
Threat: TIMBER HARVEST ACTIVITIES, ROAD MAINTENANCE.
General: 120 PLANTS OBSERVED IN 2001. THIS SECTION WAS ROCKED AND GRADED IN 1999. THE SLASH PILE WAS BURNED IN 1999.
Owner/Manager: PVT-MENDOCINO REDWOOD COMPANY

Occurrence No. 14 Map Index:47841 —Dates Last Seen— Lat/Long: 39°46'47" / 123°47'40" Township: 22N
Occ Rank: Good Element: 2001-08-22 UTM: Zone-10 N4403431 E431951 Range: 17W
Origin: Natural/Native occurrence Site: 2001-08-22 Precision: SPECIFIC Section: 07 Qtr N
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Area: 34.3 ac Elevation: 1800 ft
Main Source: MARTINEZ, J. 2001 (OBS)
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: RIDGE AT HEAD OF REDWOOD CR., 2-2.8 AIRMI SSW OF HALES GROVE, WEST OF CONFLUENCE OF NORTH & MDDLE FORKS COTTANEVA CREEK.

Comments
Distribution: SEVERAL COLONIES MAPPED BY CNDDB, MOSTLY IN THE SOUTH 1/2 OF SECTION 6 AND THE N 1/2 OF SECTION 7.
Ecological: PLANTS ON ROAD "RIGHT OF WAY" CORRIDORS. ASSOCIATES INCLUDE ARCTOSTAPHYLOS SPP., LUPINUS ARBOREUS, POLYSTICHUM MUNITUM, PSEUDOTSUGA MENZIESII, ARBUTUS MENZIESII, & VACCINIUM OVATUM. ADJACENT HABITAT IS INTENSIVELY MANAGED FORESTLANDS.
Threat: VEHICLE TRAFFIC, ROAD MAINTENANCE/CONSTRUCTION, TIMBER HARVEST ACTIVITIES.
General: 4315 PLANTS OBSERVED IN 2001 IN SEVERAL COLONIES. PLANTS APPEAR TO BE THRIVING DUE TO DISTURBANCES. CENTRAL COLONY GRADED IN 2000.
Owner/Manager: PVT-MENDOCINO REDWOOD COMPANY

Occurrence No. 15 Map Index:47843 —Dates Last Seen— Lat/Long: 39°45'56" / 123°46'55" Township: 22N
Occ Rank: Fair Element: 2001-06-01 UTM: Zone-10 N4401835 E433006 Range: 17W
Origin: Natural/Native occurrence Site: 2001-06-01 Precision: SPECIFIC Section: 18 Qtr NE
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Area: 2.1 ac Elevation: 1400 ft
Main Source: MEESE, D. 2001 (OBS)
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: RIDGE BETWEEN SLAUGHTERHOUSE AND KIMBALL GULCHES, 3.7 AIRMILES SOUTH OF HALES GROVE, EAST OF COTTANEVA VALLEY.

Comments
Distribution: 2 COLONIES ALONG DIRT ROAD ON RIDGE. PLANTS FOUND ON ROAD, ROADSIDES, AND AN OLD BURN PILE. MAPPED WITHIN THE NE 1/4 OF THE NE 1/4 OF SECTION 18.
Ecological: ON ROAD, ROADSIDES, AND AN OLD BURN PILE. ASSOCIATES ARE CEANOTHUS THRYSIFLORUS, PHACELIA BOLANDERI, MIMULUS AURANTIACUS, AND ARBUTUS MENZIESII.
Threat: TIMBER HARVEST ACTIVITES, ROAD MAINTENANCE.
General: 75 PLANTS OBSERVED IN 2001. THIS SECTION OF ROAD WAS GRADED IN THE YEAR 1999. IN ADDITION, THE PILE OF SLASH WAS ALSO BURNED IN 1999.
Owner/Manager: PVT-MENDOCINO REDWOOD COMPANY

ASTRAGALUS AGNICIDUS (cont.)
HUMBOLDT MILK-VETCH
Element Code: PDFAB0F080

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G1	CNPS List: 1B
State: Endangered	State: S1.1	R-E-D Code: 3-3-3

Occurrence No. 16 Map Index:47844
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: MEESE, D. 2001 (OBS)
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: RIDGE EAST OF KIMBALL GULCH, 3.2 AIRMILES EAST OF SOLDIER FRANK HILL, SOUTH OF REDWOOD CREEK.

—Dates Last Seen—
Element: 2001-08-10
Site: 2001-08-10

Lat/Long: 39°45'46" / 123°46'18"
UTM: Zone-10 N4401513 E433890
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 20.3 ac

Township: 22N
Range: 17W
Section: 17 Qtr NE
Meridian: M
Elevation: 1400 ft

—Comments—
Distribution: PLANTS ON ROAD, ROADSIDES, SKID TRAILS, OLD BURN PILES, AND WITHIN A CLEARCUT HARVESTED IN 1999.
Ecological: ASSOCIATES INCLUDED CEANOTHUS THRYSIFLORUS, PHACELIA BOLANDERI, MIMULUS AURANTIACUS, AND ARBUTUS MENZIESII.
Threat: TIMBER HARVEST ACTIVITES, ROAD MAINTENANCE.
General: 8195 PLANTS OBSERVED IN 2001. ROAD WAS GRADED AND CLEARCUT WAS HARVESTED IN 1999.
Owner/Manager: PVT-MENDOCINO REDWOOD COMPANY

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

LATHYRUS PALUSTRIS
MARSH PEA
Element Code: PDFAB250P0

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CNPS List: 2
State: None	State: S2S3	R-E-D Code: 2-2-1

Habitat Associations
General: BOGS & FENS, LOWER MONTANE CONIF. FOREST, MARSHES & SWAMPS, N. COAST CONIFEROUS FOREST, COASTAL PRAIRIE, COASTAL SCRUB.
Micro: MOIST COASTAL AREAS. 1-100M.

Occurrence No. 1 Map Index:27976
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: CLARK, K. #560 HSC #79370 (HERB)
Quad Summary: SHELTER COVE (4012411/618D)
County Summary: HUMBOLDT
SNA Summary:
Location: IN WOODLANDS SOUTH OF DEAD MANS GULCH, SE OF SHELTER COVE.

Dates Last Seen
Element: 1980-03-27
Site: 1980-03-27

Lat/Long: 40°01'34" / 124°02'56"
UTM: Zone-10 N4430967 E410502
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 2/5 mile

Township: 05S
Range: 01E
Section: 15 Qtr E
Meridian: H
Elevation: 200 ft

Comments
Distribution: COLLECTED WITHIN T05S R01E SECTION 15.
Ecological: IN WOODLANDS.
Threat:
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1980 COLLECTION BY CLARK.
Owner/Manager: UNKNOWN

SIDALCEA MALACHROIDES
MAPLE-LEAVED CHECKERBLOOM
Element Code: PDMAL110E0

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-2-2

Habitat Associations
General: BROADLEAFED UPLAND FOREST, COASTAL PRAIRIE, COASTAL SCRUB, NORTH COAST CONIFEROUS FOREST.
Micro: WOODLANDS AND CLEARINGS NEAR COAST; OFTEN IN DISTURBED AREAS. 2-760M.

Occurrence No. 15 Map Index:35039
Occ Rank: Excellent
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BOWCUTT, F. 1989 (OBS)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SINKYONE WILDERNESS STATE PARK, 0.33 MILE EAST OF DUFFYS REEF BETWEEN J. SMEATON GROVE AND SCHOOL MARM GROVE.

Dates Last Seen—
Element: 1989-05-20
Site: 1989-05-20

Lat/Long: 39°54'22" / 123°55'19"
UTM: Zone-10 N4417523 E421185
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 24N
Range: 19W
Section: 25 Qtr SW
Meridian: M
Elevation: 600 ft

Comments
Distribution: ALONG TRAIL.
Ecological: SECOND GROWTH DOUGLAS FIR IN ASSOCIATED WITH BACCHARIS PILULARIS, FRAGARIA VESCA, SATUREJA DOUGLASII, AND MIMULUS AURANTIACUS ON SANDSTONE SUBSTRATE.
Threat: POSSIBLE THREAT AS CANOPY FILLS IN.
General:
Owner/Manager: DPR-SINKYONE WILDERNESS SP

Occurrence No. 16 Map Index:35037
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BOWCUTT, F. 1995 (OBS)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SINKYONE WILDERNESS STATE PARK, NORTH OF WHEELER ALONG THE EAST-SIDE OF NORTH FORK JACKASS CREEK.

Dates Last Seen—
Element: 1995-06-08
Site: 1995-06-08

Lat/Long: 39°53'39" / 123°54'42"
UTM: Zone-10 N4416189 E422066
Precision: SPECIFIC
Symbol Type: POINT
Radius: 80 meters

Township: 24N
Range: 18W
Section: 31 Qtr SW
Meridian: M
Elevation: 120 ft

Comments
Distribution: MAPPED ALONG OLD LOGGING ROAD ABOUT 200 METERS SOUTH OF EAST BRANCH OF NORTH FORK WITHIN THE NW 1/4 OF THE SW 1/4 OF SECTION 31.
Ecological: COAST REDWOOD/DOUGLAS FIR FOREST AND RED ALDER WOODLAND. ASSOCIATED WITH STACHYS AJUGOIDES, DIGITALIS PURPUREA, NEMOPHILA PARVIFLORA, JUNCUS, FRAGARIA VESCA, AND MENTHA PULEGIUM.
Threat: ROAD MAINTENANCE.
General: 10-15 PLANTS OBSERVED IN 1995.
Owner/Manager: DPR-SINKYONE WILDERNESS SP

Occurrence No. 17 Map Index:35038
Occ Rank: Fair
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BOWCUTT, F. 1995 (OBS)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SINKYONE WILDERNESS STATE PARK, SSE OF WHEELER ALONG WHEELER TRAIL AND WEST OF TRIBUTARY TO JACKASS CREEK.

Dates Last Seen—
Element: 1995-06-07
Site: 1995-06-07

Lat/Long: 39°53'00" / 123°54'30"
UTM: Zone-10 N4414991 E422333
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 16.9 ac

Township: 23N
Range: 18W
Section: 06 Qtr NW
Meridian: M
Elevation: 180 ft

Comments
Distribution: THREE COLONIES MAPPED BEFORE AND AT HORSESHOE BEND IN TRAIL. COLONIES MAPPED ALONG TRAIL NEAR JACKASS CREEK CROSSING, MID-WAY BETWEEN CROSSING AND BEND IN TRAIL, AND AT THE HORSESHOE BEND.
Ecological: COAST REDWOOD/DOUGLAS FIR FOREST AND RED ALDER WOODLAND. ASSOCIATED WITH DIGITALIS PURPUREA, HYPOCHAERIS RADICATA, STACHYS AJUGOIDES, ERECHTITES MINIMA, GNAPHALUM, GALIUM, AND CYNOSURUS.
Threat: ROAD/TRAIL MAINTENANCE.
General: ABOUT 50 PLANTS OBSERVED IN 1995.
Owner/Manager: DPR-SINKYONE WILDERNESS SP

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

MONTIA HOWELLII
HOWELL'S MONTIA
Element Code: PDPOR05070

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G3	CNPS List: 2
State: None	State: S1.2	R-E-D Code: 3-2-1

Habitat Associations
General: MEADOWS, NORTH COAST CONIFEROUS FOREST, VERNAL POOLS.
Micro: VERNALLY WET SITES; OFTEN ON COMPACTED SOIL. 0-400M.

Occurrence No. 5 Map Index:32683
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: VRILAKAS, S. 1989 (PERS)
Quad Summary: BRICELAND (4012318/617C)
County Summary: HUMBOLDT
SNA Summary:
Location: WHITE THORN VALLEY.

Dates Last Seen
Element: 1923-06-20
Site: 1923-06-20

Lat/Long: 40°01'22" / 123°56'23"
UTM: Zone-10 N4430505 E419810
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 05S
Range: 02E
Section: XX Qtr XX
Meridian: H
Elevation: 1020 ft

Comments
Distribution: MAPPED NEAR WHITETHORN ALONG THE MATTOLE RIVER.
Ecological: WET GROUND ALONG CREEK.
Threat:
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1923 COLLECTION BY TRACY (SN, JEPS/UC)
Owner/Manager: UNKNOWN

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

HORKELIA MARINENSIS
POINT REYES HORKELIA
Element Code: PDROSOW0B0

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 3-2-3

Habitat Associations
General: COASTAL DUNES, COASTAL PRAIRIE, COASTAL SCRUB.
Micro: SANDY FLATS AND DUNES NEAR COAST; IN GRASSLAND OR SCRUB PLANT COMMUNITIES. 5-30M.

Occurrence No. 6 Map Index:07021
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: JONES, M. #29005 DS (HERB)
Quad Summary: WESTPORT (3912367/585A)*, HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: ROCKPORT.

Dates Last Seen
Element: 1931-07-13
Site: 1931-07-13

Lat/Long: 39°44'17" / 123°49'24"
UTM: Zone-10 N4398792 E429448
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 22N
Range: 18W
Section: 23 Qtr XX
Meridian: M
Elevation: 30 ft

Comments
Distribution:
Ecological:
Threat:
General:
Owner/Manager: PVT

MITELLA CAULESCENS
LEAFY-STEMMED MITREWORT
Element Code: PDSAX0N020

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G5	CNPS List: 2
State: None	State: S2.3	R-E-D Code: 2-1-1

Habitat Associations
General: BROADLEAFED UPLAND FOREST, LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS, NORTH COAST CONIFEROUS FOREST.
Micro: MESIC SITES. 610-1700M.

Occurrence No. 8 Map Index:46336
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: SWINGLE, T. 2001 (OBS)
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: SOLDIER CREEK.

Dates Last Seen:
Element: 2001-05-18
Site: 2001-05-18

Lat/Long: 39°50'57" / 123°49'46"
UTM: Zone-10 N4411140 E429035
Precision: SPECIFIC
Symbol Type: POLYGON
Area: 1.2 ac

Township: 23N
Range: 18W
Section: 14 Qtr NW
Meridian: M
Elevation: 120 ft

Comments
Distribution: NE 1/4 OF NW 1/4 SEC 14.
Ecological: FOUND ON FLAT GROUND NEAR STREAM, UNDER DENSE OVERSTORY, WITH SPOTTED OWL, TOLMIEA MENZIESII, TELLIMA GRANDIFLORA, OXALIS SP., FERNS, EQUISETUM SP.
Threat: TRAMPLING BY HUMANS AND ANIMALS (ON OLD SKID TRAIL NEAR CREEK), TIMBER HARVEST.
General: 100 PLANTS SEEN IN 2001, SURROUNDING AREA IS USED FOR TIMBER HARVEST, OCCURENCE AREA IS PROTECTED BY WLPZ.
Owner/Manager: PVT

Occurrence No. 9 Map Index:46337
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BOWCUTT, F. SN DAV, HSC (HERB)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SINKYONE WILDERNESS SP.

Dates Last Seen:
Element: 199X-XX-XX
Site: 199X-XX-XX

Lat/Long: 39°53'59" / 123°54'59"
UTM: Zone-10 N4416849 E421637
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 24N
Range: 19W
Section: 36 Qtr XX
Meridian: M
Elevation:

Comments
Distribution: MAPPED ACCORDING TO LAT/LONG CITED BY SOURCE.
Ecological:
Threat:
General: NEEDS FIELDWORK. DATE SEEN UNCERTAIN; SOURCE STATES "BETWEEN 1986-1996."
Owner/Manager: DPR-SINKYONE WILDERNESS SP

CASTILLEJA AFFINIS SSP LITORALIS
OREGON COAST INDIAN PAINTBRUSH
Element Code: PDSCR0D1V0

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5T4	CNPS List: 2
State: None	State: S2.2	R-E-D Code: 2-2-1

Habitat Associations
General: COASTAL BLUFF SCRUB, COASTAL DUNES, COASTAL SCRUB.
Micro: SANDY SITES. 15-100M.

Occurrence No. 4 Map Index:44693 —Dates Last Seen— Lat/Long: 39°52'29" / 123°54'35" Township: 23N
Occ Rank: Unknown Element: 1989-07-09 UTM: Zone-10 N4414066 E422190 Range: 18W
Origin: Natural/Native occurrence Site: 1989-07-09 Precision: NON-SPECIFIC Section: 06 Qtr SW
Presence: Presumed Extant Symbol Type: POLYGON Meridian: M
Trend: Unknown Area: 41.5 ac Elevation: 500 ft
Main Source: BOWCUTT, F. #1438 HSC #93843 (HERB)
Quad Summary: MISTAKE POINT (3912378/601C)*, BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: N OF MISTAKE POINT, ALONG LOST COAST TRAIL, SSE OF VERNAL POOL.

Comments
Distribution: 20 YARDS UPSLOPE AND N OF EQUISETUM-DOMINATED DEPRESSION, SW 1/4 OF SW 1/4 SEC 6.
Ecological: S FACING, 45 DEGREE SLOPE, WITH BACCHARIS PILULARIS, PTERIDIUM AQUILINUM, MIMULUS AURANTIACUS, ACHILLEA BOREALIS, AND CALAMAGROSTIS FOLIOSA WHICH WAS GROWING ON NW FACING BLUFF 60 YARDS TO THE SW.
Threat:
General: NEEDS FIELDWORK.
Owner/Manager: DPR-SINKYONE WILDERNESS SP

Occurrence No. 5 Map Index:44694 —Dates Last Seen— Lat/Long: 39°56'49" / 123°58'01" Township: 24N
Occ Rank: Unknown Element: 1995-06-24 UTM: Zone-10 N4422135 E417384 Range: 19W
Origin: Natural/Native occurrence Site: 1995-06-24 Precision: NON-SPECIFIC Section: 10 Qtr SW
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Radius: 1/5 mile Elevation: 100 ft
Main Source: BOWCUTT #2003 JEPS #88863 (HERB)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SINKYONE WILDERNESS SP, S OF LOW GAP CREEK.

Comments
Distribution: ALONG COASTAL TRAIL, JUST S OF UNNAMED CREEK, ABOVE MOUTH OF UNNAMED CREEK, SW 1/4 SEC 10.
Ecological: NW-FACING
Threat:
General: NEEDS FIELDWORK.
Owner/Manager: DPR-SINKYONE WILDERNESS SP

Occurrence No. 6 Map Index:44695 —Dates Last Seen— Lat/Long: 39°56'12" / 123°57'30" Township: 24N
Occ Rank: Unknown Element: 1995-07-07 UTM: Zone-10 N4420962 E418111 Range: 19W
Origin: Natural/Native occurrence Site: 1995-07-07 Precision: NON-SPECIFIC Section: 15 Qtr W
Presence: Presumed Extant Symbol Type: POINT Meridian: M
Trend: Unknown Radius: 1/5 mile Elevation: 240 ft
Main Source: BOWCUTT #2024 JEPS #88865 (HERB)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SINKYONE WILDERNESS SP, 0.5 MI S OF NEEDLE ROCK RANCH.

Comments
Distribution: MAPPED ALONG DIRT ROAD TO BEAR HARBOR, JUST N OF FIRST UNNAMED CREEK S OF NEEDLE ROCK.
Ecological: ASPECT 230 DEGREES, NW-FACING.
Threat:
General: NEEDS FIELDWORK.
Owner/Manager: DPR-SINKYONE WILDERNESS SP

CASTILLEJA AFFINIS SSP LITORALIS (cont.)
OREGON COAST INDIAN PAINTBRUSH
Element Code: PDSCR0D1V0

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5T4	CNPS List: 2
State: None	State: S2.2	R-E-D Code: 2-2-1

Occurrence No. 7 Map Index:44696
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BOWCUTT #2025 JEPS #88867 (HERB)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SINKYONE WILDERNESS SP, 0.9 MI S OF NEEDLE ROCK RANCH HOUSE.

Dates Last Seen—
Element: 1995-07-07
Site: 1995-07-07

Lat/Long: 39°55'52" / 123°57'19"
UTM: Zone-10 N4420368 E418351
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/10 mile

Township: 24N
Range: 19W
Section: 22 Qtr NE
Meridian: M
Elevation: 240 ft

—Comments—
Distribution: ALONG ROAD TO BEAR HARBOR.
Ecological: W-FACING.
Threat:
General: NEEDS FIELDWORK.
Owner/Manager: DPR-SINKYONE WILDERNESS SP

Occurrence No. 8 Map Index:44697
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BOWCUTT #2029 JEPS #88869 (HERB)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: SINKYONE WILDERNESS SP, 1.2, 1.3 AND 1.45 MI S OF NEEDLE ROCK RANCH.

Dates Last Seen—
Element: 1995-07-07
Site: 1995-07-07

Lat/Long: 39°55'37" / 123°57'19"
UTM: Zone-10 N4419906 E418355
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 24N
Range: 19W
Section: 22 Qtr E
Meridian: M
Elevation: 240 ft

—Comments—
Distribution: MAPPED ALONG ROAD TO BEAR HARBOR, JUST N OF FLAT ROCK CREEK CROSSING AND HIGH TIP.
Ecological: SW- AND W-FACING.
Threat:
General: NEEDS FIELDWORK. 3 COLLECTIONS FROM 1995 BY BOWCUTT AT 1.2, 1.3 AND 1.45 MI S OF NEEDLE ROCK RANCH ATTRIBUTED TO THIS SITE.
Owner/Manager: DPR-SINKYONE WILDERNESS SP

Occurrence No. 9 Map Index:44698
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BOWCUTT #2046 JEPS #88872 (HERB)
Quad Summary: BEAR HARBOR (3912388/601B)
County Summary: MENDOCINO
SNA Summary:
Location: 2.4 MI S OF NEEDLE ROCK RANCH, 0.4 MI N OF BEAR HARBOR, 0.1 MI FROM ORCHARD CAMPGROUND AND LOST COAST TRAILHEAD.

Dates Last Seen—
Element: 1995-07-12
Site: 1995-07-12

Lat/Long: 39°55'10" / 123°56'34"
UTM: Zone-10 N4419052 E419406
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 24N
Range: 19W
Section: 23 Qtr SW
Meridian: M
Elevation: 60 ft

—Comments—
Distribution: ON CUT BANK ABOVE BRICELAND ROAD, SW 1/4 SEC 23.
Ecological: ASPECT 200 DEGREES.
Threat:
General: NEEDS FIELDWORK. CNDDB NEEDS MORE PRECISE LOCATION INFORMATION FOR ALL OF THESE CASTILLEJA OCCURRENCES IN THE SINKYONE WILDERNESS.
Owner/Manager: DPR-SINKYONE WILDERNESS SP

CASTILLEJA AFFINIS SSP LITORALIS (cont.)
OREGON COAST INDIAN PAINTBRUSH
Element Code: PDSCR0D1V0

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4G5T4	CNPS List: 2
State: None	State: S2.2	R-E-D Code: 2-2-1

Occurrence No. 10 Map Index:44699
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: CLARK, K. #588 HSC #79475 (HERB)
Quad Summary: SHELTER COVE (4012411/618D)
County Summary: HUMBOLDT
SNA Summary:
Location: SHELTER COVE, DEAD MAN'S GULCH.

Dates Last Seen:
Element: 1980-04-18
Site: 1980-04-18

Lat/Long: 40°01'30" / 124°03'22"
UTM: Zone-10 N4430878 E409880
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1/5 mile

Township: 05S
Range: 01E
Section: 15 Qtr XX
Meridian: H
Elevation: 40 ft

Comments:
Distribution: MAPPED TO INCLUDE LOWER ALLUVIAL TERRACE AT DEAD MAN'S GULCH. ON SLOPES AND TERRACES, SEC 15.
Ecological:
Threat:
General: NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, BearHarbor, Shelter Cove, Briceland,
Garberville, Mistake Point, CA 7.5 minute USGS Quadrangle

CASTILLEJA MENDOCINENSIS
MENDOCINO COAST INDIAN PAINTBRUSH
Element Code: PDSCR0D3N0

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G2	CNPS List: 1B
State: None	State: S2.2	R-E-D Code: 2-2-3

Habitat Associations
General: COASTAL BLUFF SCRUB, COASTAL SCRUB, COASTAL PRAIRIE, CLOSED-CONE CONIFEROUS FOREST, COASTAL DUNES.
Micro: OFTEN ON SEA BLUFFS OR CLIFFS IN COASTAL BLUFF SCRUB OR PRAIRIE. 0-160M.

Occurrence No. 1 Map Index:06994
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: WOLF, C. #1308 RSA (HERB)
Quad Summary: HALES GROVE (3912377/601D)
County Summary: MENDOCINO
SNA Summary:
Location: USAL.

Comments
Distribution:
Ecological:
Threat:
General:
Owner/Manager: PVT

Dates Last Seen
Element: 1927-08-31
Site: 1927-08-31

Lat/Long: 39°50'03" / 123°50'40"
UTM: Zone-10 N4409482 E427742
Precision: NON-SPECIFIC
Symbol Type: POINT
Radius: 1 mile

Township: 23N
Range: 18W
Section: 22 Qtr XX
Meridian: M
Elevation:

ERYTHRONIUM REVOLUTUM
COAST FAWN LILY
Element Code: PMLILOU0F0

List Status	NDDB Element Ranks	Other Lists
Federal: None	Global: G4	CNPS List: 2
State: None	State: S2.2	R-E-D Code: 2-2-1

Habitat Associations
General: BOGS AND FENS, BROADLEAFED UPLAND FOREST, NORTH COAST CONIFEROUS FOREST.
Micro: 0-1065M.

Occurrence No. 5 Map Index:47177
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: APPLEGATE, I. #8308 DS (HERB)
Quad Summary: PIERCY (3912387/601A)*, NOBLE BUTTE (3912386/600B)
County Summary: MENDOCINO
SNA Summary:
Location: MCCOY CREEK, EAST OF ROUTE 101 BETWEEN PIERCY AND REYNOLDS WAYSIDE CAMP, NEAR GARBERVILLE.

Dates Last Seen
Element: 1933-04-05
Site: 1933-04-05

Lat/Long: 39°57'32" / 123°45'05"
UTM: Zone-10 N4423270 E435816
Precision: NON-SPECIFIC
Symbol Type: POLYGON
Area: 272.7 ac

Township: 24N
Range: 17W
Section: 04 Qtr XX
Meridian: M
Elevation:

Comments
Distribution:
Ecological:
Threat:
General: NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

Occurrence No. 6 Map Index:47178
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: TRACY, J. #8534 UC #1197652 (HERB)
Quad Summary: GARBERVILLE (4012317/617D)*, PIERCY (3912387/601A)
County Summary: HUMBOLDT, MENDOCINO
SNA Summary:
Location: SOUTH FORK EEL RIVER, NORTHERN COAST RANGES.

Dates Last Seen
Element: 1929-04-14
Site: 1929-04-14

Lat/Long: 40°00'06" / 123°46'55"
UTM: Zone-10 N4428055 E433235
Precision: NON-SPECIFIC
Symbol Type: POLYGON
Area: 136.8 ac

Township: 05S
Range: 03E
Section: 24 Qtr XX
Meridian: H
Elevation: 500 ft

Comments
Distribution: HILLSIDE NEAR HUMBOLDT-MENDOCINO COUNTY LINE.
Ecological: ON HILLSIDE IN SHADE.
Threat:
General: NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

California Department of Fish and Game
Natural Diversity Data Base

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, Bear Harbor, Shelter Cove, Briceland, Garberville, Mistake Point, CA 7.5' USGS Quadrangle

Scientific/Common Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
ARBORIMUS POMO *RED TREE VOLE*	None/ None	G3/ S3		SC
ASTRAGALUS AGNICIDUS *HUMBOLDT MILK-VETCH*	None/ Endangered	G1/ S1.1	1B/ 3-3-3	
CASTILLEJA AFFINIS SSP LITORALIS *OREGON COAST INDIAN PAINTBRUSH*	None/ None	G4G5T4 / S2.2	2/ 2-2-1	
CASTILLEJA MENDOCINENSIS *MENDOCINO COAST INDIAN PAINTBRUSH*	None/ None	G2/ S2.2	1B/ 2-2-3	
ERYTHRONIUM REVOLUTUM *COAST FAWN LILY*	None/ None	G4/ S2.2	2/ 2-2-1	
HORKELIA MARINENSIS *POINT REYES HORKELIA*	None/ None	G2/ S2.2	1B/ 3-2-3	
LATHYRUS PALUSTRIS *MARSH PEA*	None/ None	G5/ S2S3	2/ 2-2-1	
MITELLA CAULESCENS *LEAFY-STEMMED MITREWORT*	None/ None	G5/ S2.3	2/ 2-1-1	
MONTIA HOWELLII *HOWELL'S MONTIA*	None/ None	G3/ S1.2	2/ 3-2-1	
ONCORHYNCHUS KISUTCH *COHO SALMON - CENTRAL CALIFORNIA ESU*	Threatened/ Endangered	G5/ S2?		
ONCORHYNCHUS MYKISS IRIDEUS *SUMMER-RUN STEELHEAD TROUT*	Candidate/ None	G5T2/ S2		SC
PANDION HALIAETUS *OSPREY*	None/ None	G5/ S3		SC
RHYACOTRITON VARIEGATUS *SOUTHERN TORRENT (=SEEP) SALAMANDER*	None/ None	G4/ S2S3		SC

Sinkyone State Park Watershed Rehabilitation
Hales Grove, Piercy, Bear Harbor, Shelter Cove, Briceland, Garberville, Mistake Point, CA 7.5' USGS Quadrangle

Scientific/Common Name	Federal/ State Status	Global/ State Rank	CNPS/ R-E-D	CDFG Status
SIDALCEA MALACHROIDES *MAPLE-LEAVED CHECKERBLOOM*	None/ None	G2/ S2.2	1B/ 2-2-2	
STRIX OCCIDENTALIS CAURINA *NORTHERN SPOTTED OWL*	Threatened/ None	G3T3/ S2S3		
USNEA LONGISSIMA *LONG-BEARD LICHEN*	None/ None	G3/ S2.1	/	